US009158179B2

(12) **United States Patent**
**Gassman et al.**

(10) **Patent No.: US 9,158,179 B2**
(45) **Date of Patent: Oct. 13, 2015**

(54) **PHOTO BOOTH SYSTEMS AND METHODS**

(75) Inventors: **Matthew J. Gassman**, Minneapolis, MN (US); **Jacob G. Stewart**, Minneapolis, MN (US)

(73) Assignee: **The Traveling Photo Booth Inc.**, Minneapolis, MN (US)

( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1046 days.

(21) Appl. No.: **12/755,767**

(22) Filed: **Apr. 7, 2010**

(65) **Prior Publication Data**

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**Related U.S. Application Data**

(63) Continuation-in-part of application No. 12/172,795, filed on Jul. 14, 2008, now Pat. No. 7,885,522.

(51) **Int. Cl.**
***G03B 15/00*** (2006.01)

(52) **U.S. Cl.**
CPC ..... ***G03B 15/00*** (2013.01)

(58) **Field of Classification Search**
CPC ..... G03B 15/00
USPC ..... 396/2
See application file for complete search history.

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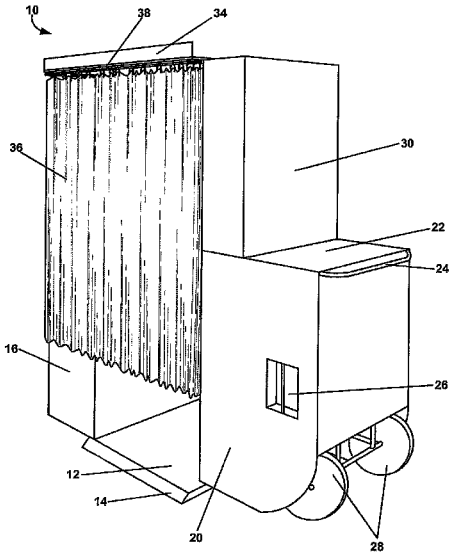
*Primary Examiner* — Rodney Fuller
(74) *Attorney, Agent, or Firm* — Mueting, Raasch & Gebhardt, P.A.

(57) **ABSTRACT**

Photo booth systems and methods of using photo booth systems, such as those that provide photo booths and interaction between the photo booths and one or more user groups.

**10 Claims, 43 Drawing Sheets**



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"Photo Boof! Downloads," datasheet [online]. Copyright 2006-2009 Photoboof. Retrieved from the Internet:<URL:http://www.photoboof.com/downloads/>; 12 pages.

Photograph of a first-generation photo booth; in use prior to Jul. 14, 2007 (1 page); see additional description within Information Disclosure Statement.

Photographs of a second-generation photo booth; in use prior to Jul. 14, 2007 (4 pages); see additional description within Information Disclosure Statement.

Brochure (showing the second-generation photo booth), The Traveling Photo Booth (1 page); in publication Mar. 1, 2006.

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FIG. 1A

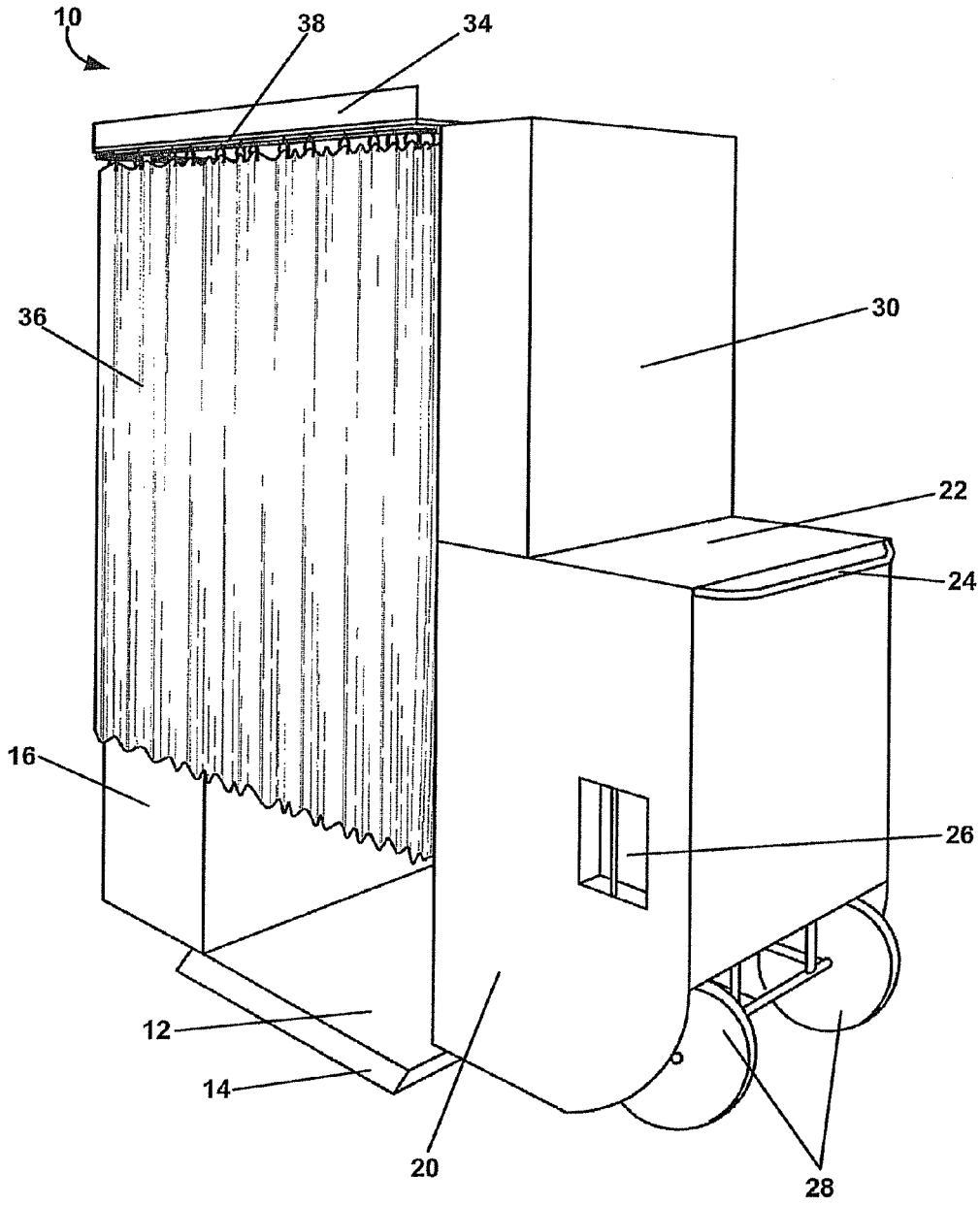


*FIG. 1B*

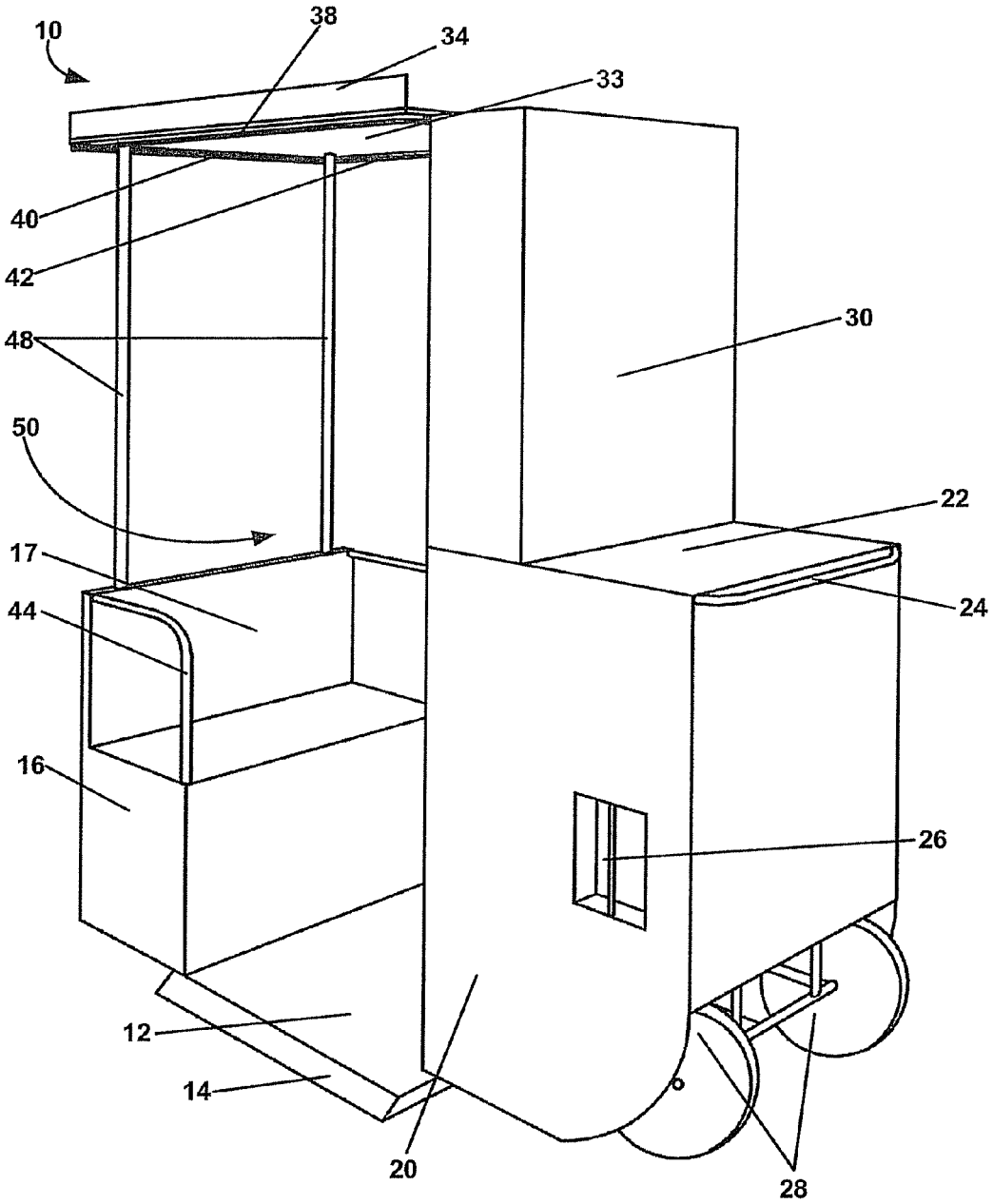


*FIG. 1C*

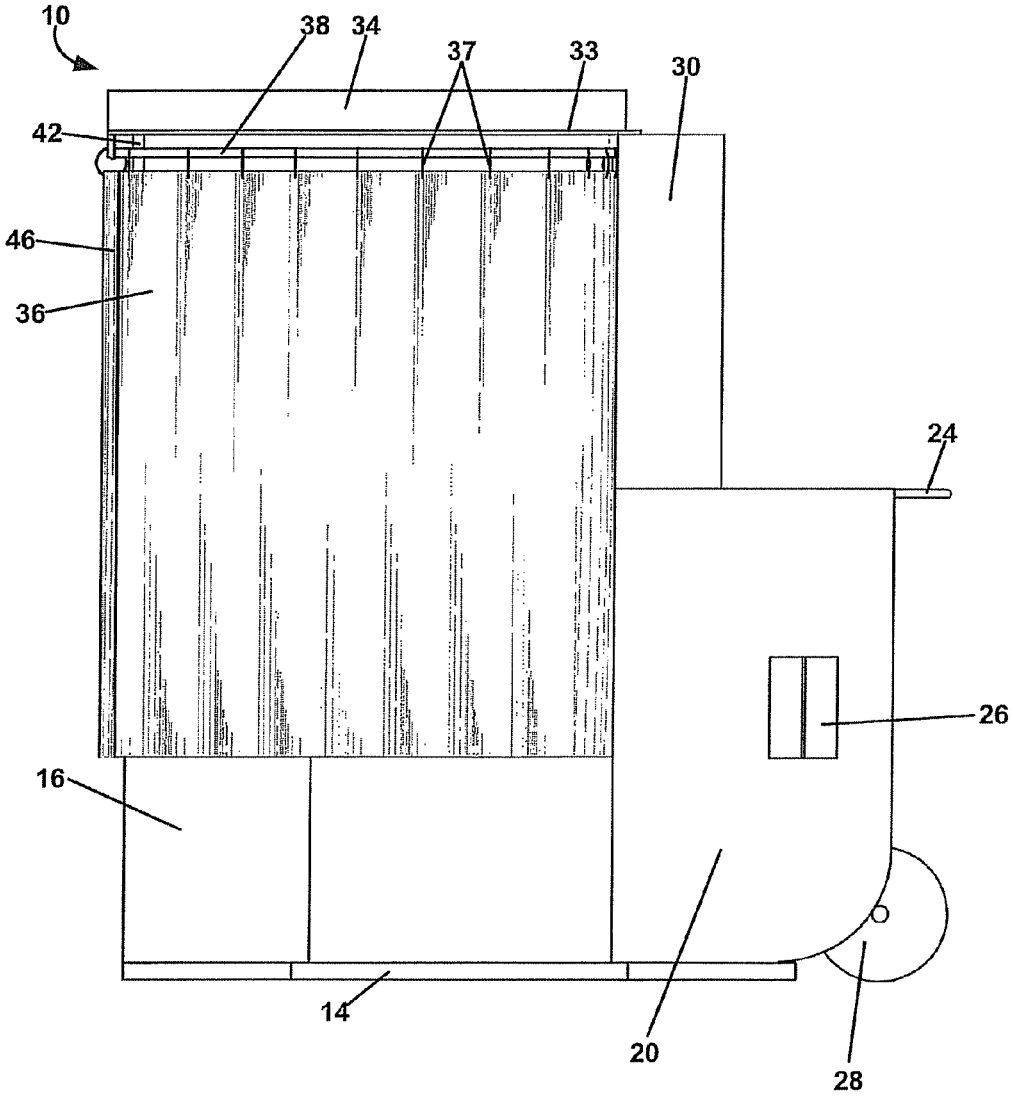


FIG. 1D

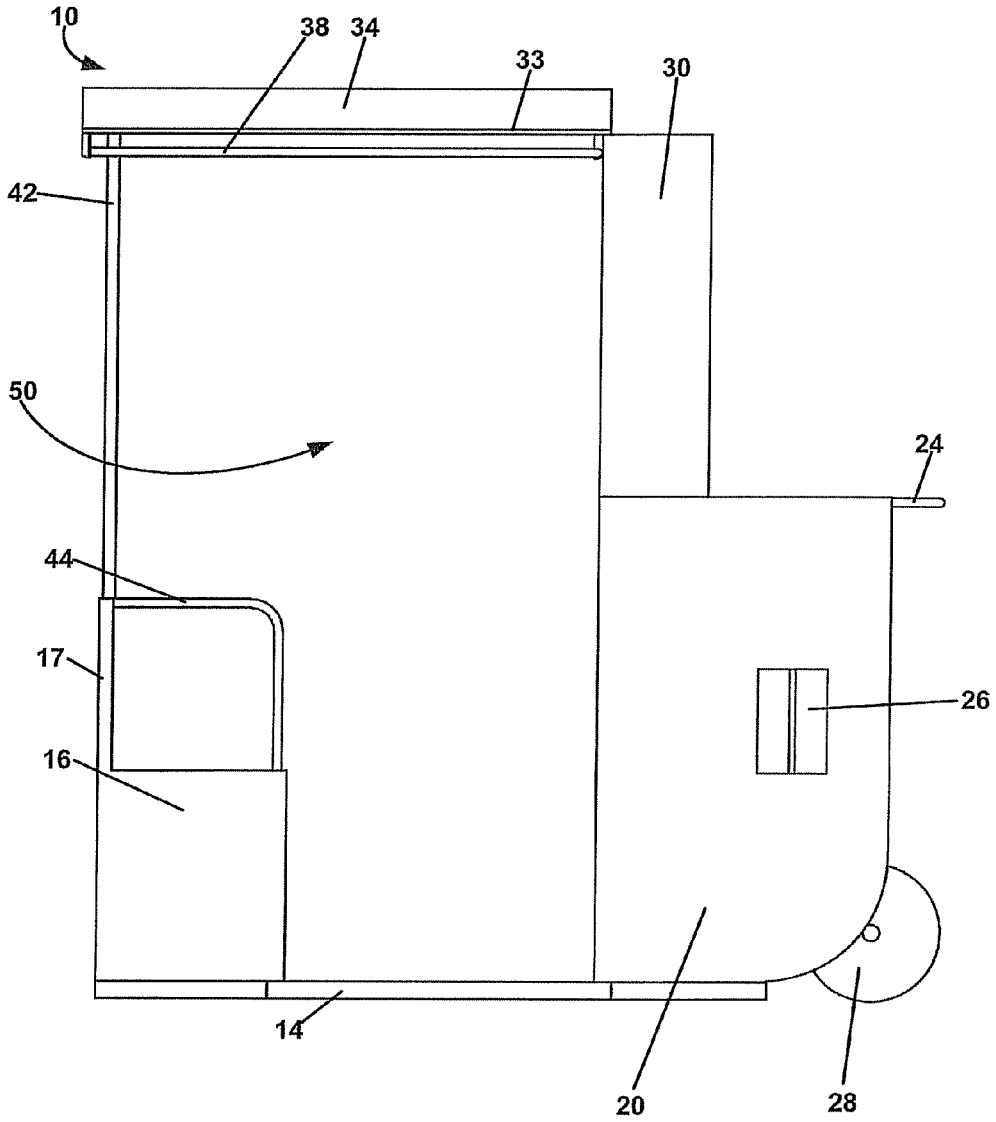


FIG. 1E

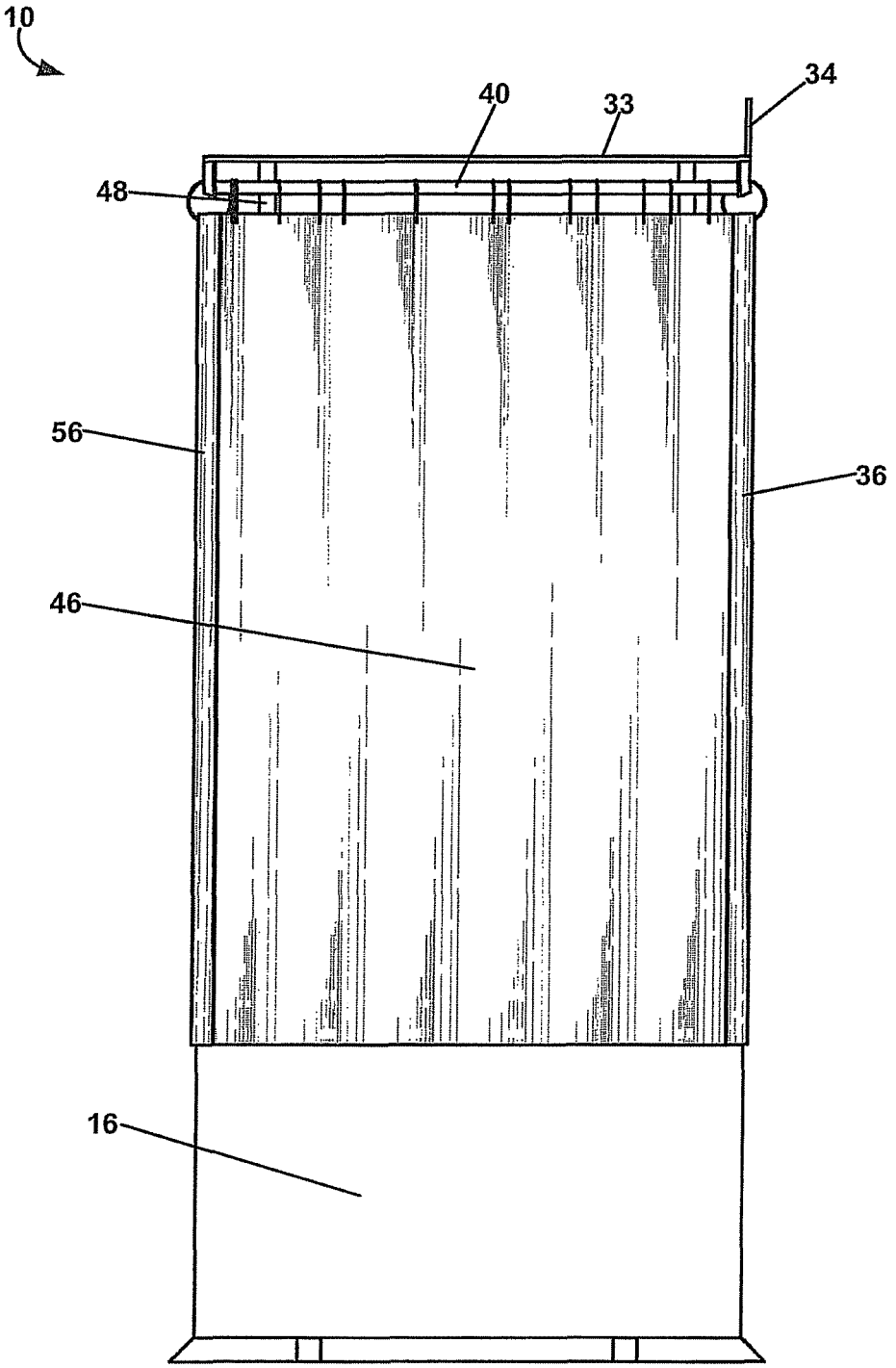


*FIG. 1F*

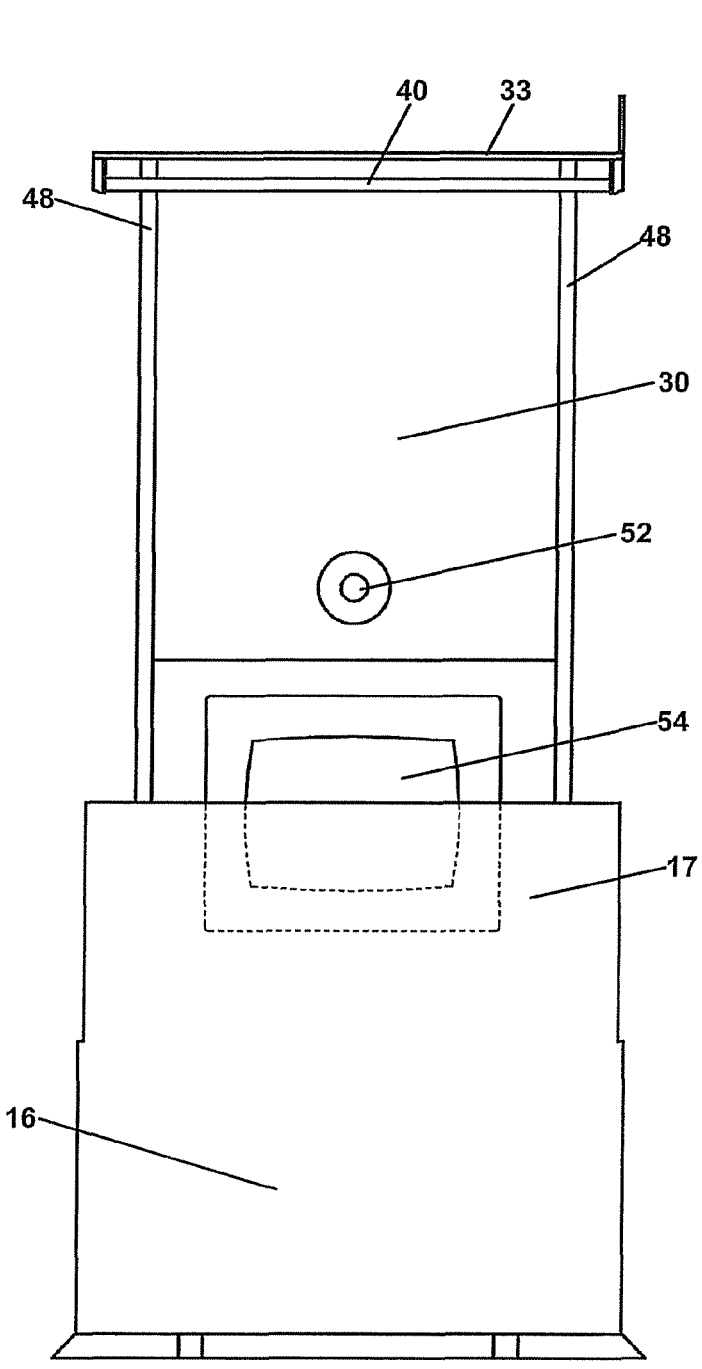
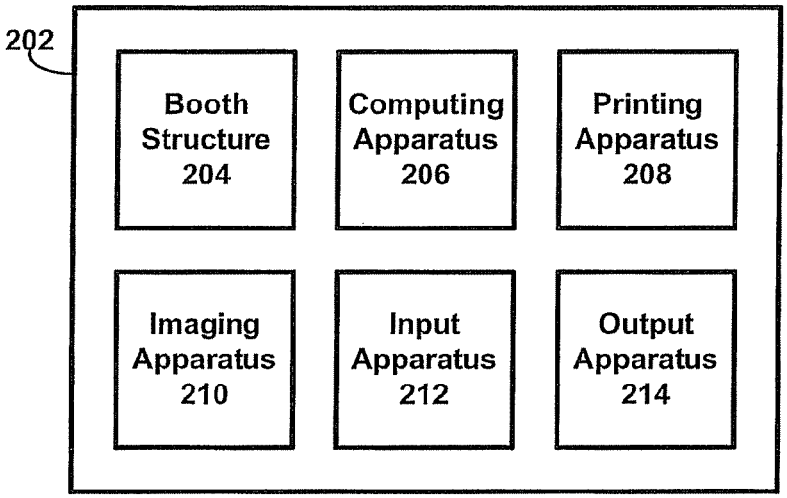


*FIG. 2*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Booth Structure 204
Computing Apparatus 206
Printing Apparatus 208
Imaging Apparatus 210
Input Apparatus 212
Output Apparatus 214

*FIG. 3*

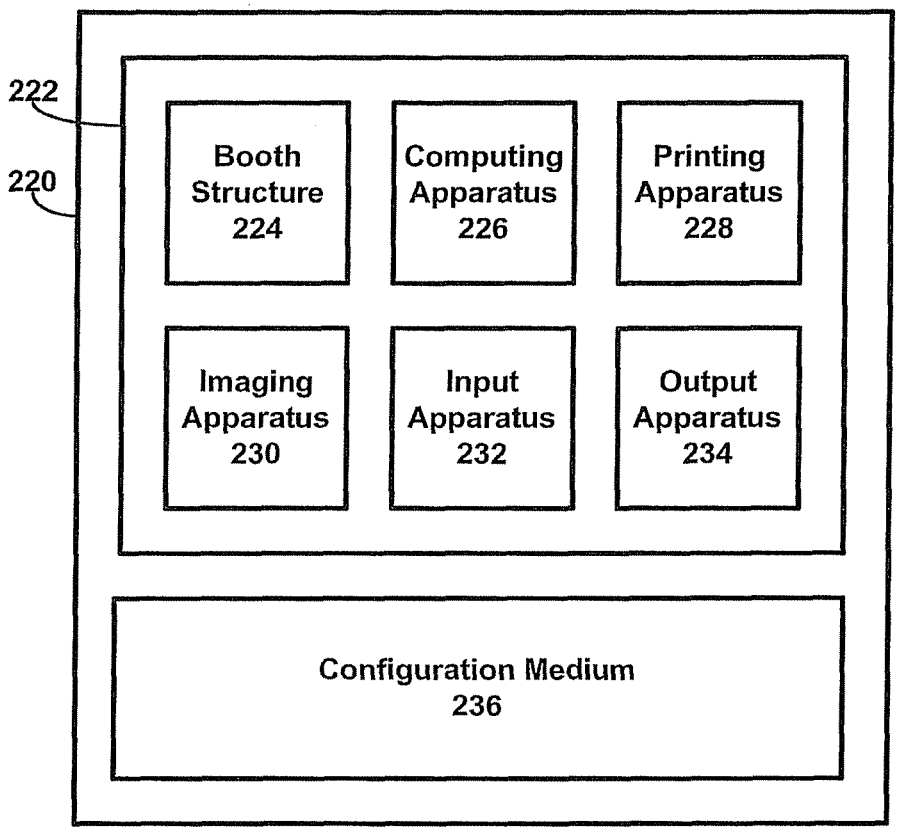

222
220
Booth Structure 224
Computing Apparatus 226
Printing Apparatus 228
Imaging Apparatus 230
Input Apparatus 232
Output Apparatus 234
Configuration Medium 236

*FIG. 4*

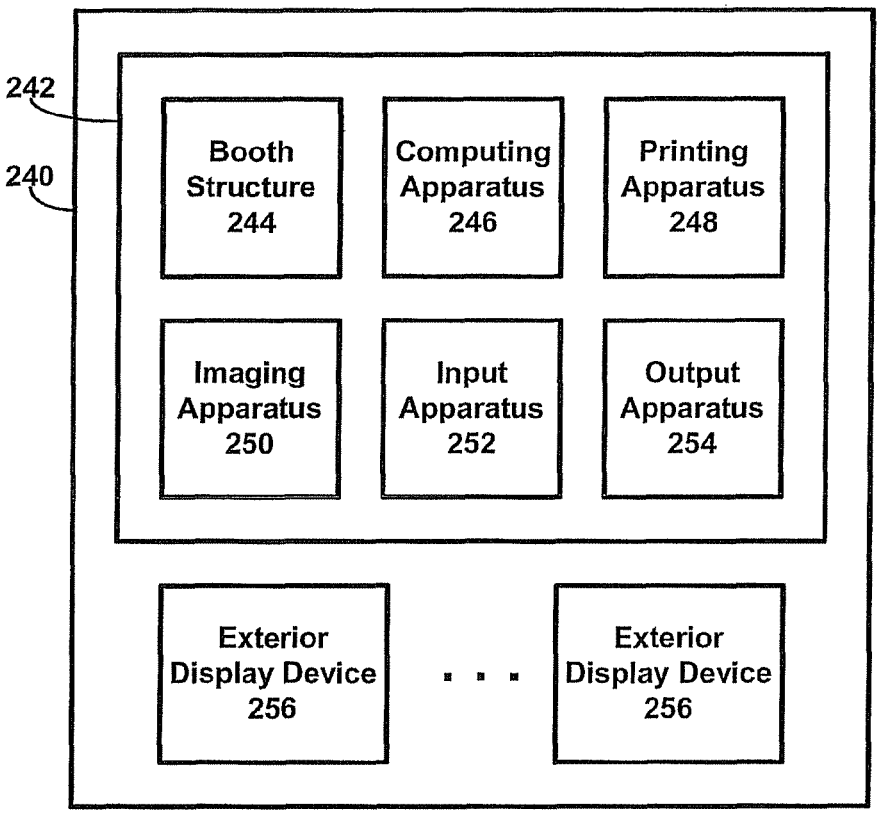

242
240
Booth Structure 244
Computing Apparatus 246
Printing Apparatus 248
Imaging Apparatus 250
Input Apparatus 252
Output Apparatus 254
Exterior Display Device 256
Exterior Display Device 256

*FIG. 5*

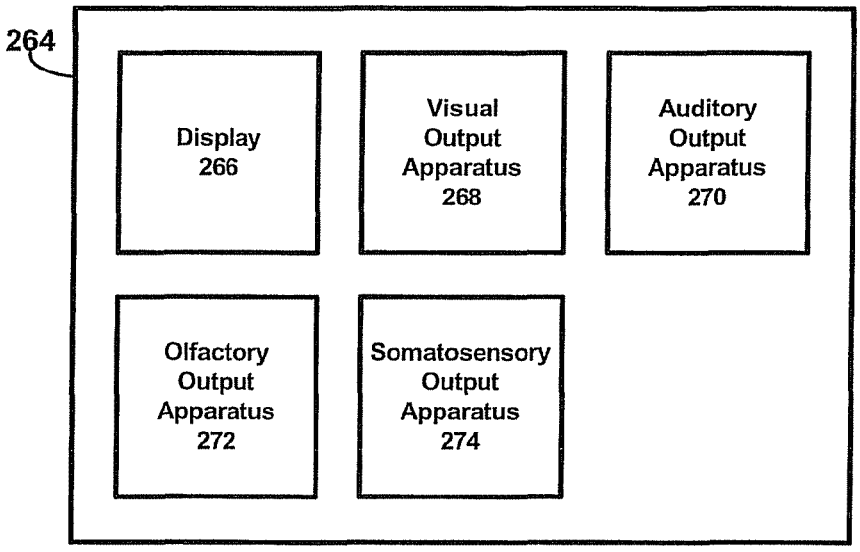

264
Display 266
Visual Output Apparatus 268
Auditory Output Apparatus 270
Olfactory Output Apparatus 272
Somatosensory Output Apparatus 274

*FIG. 6*

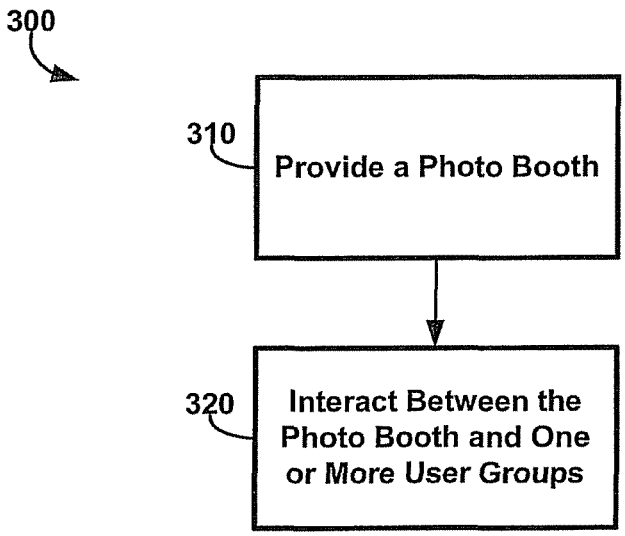

300
310
Provide a Photo Booth
320
Interact Between the Photo Booth and One or More User Groups

*FIG. 7*

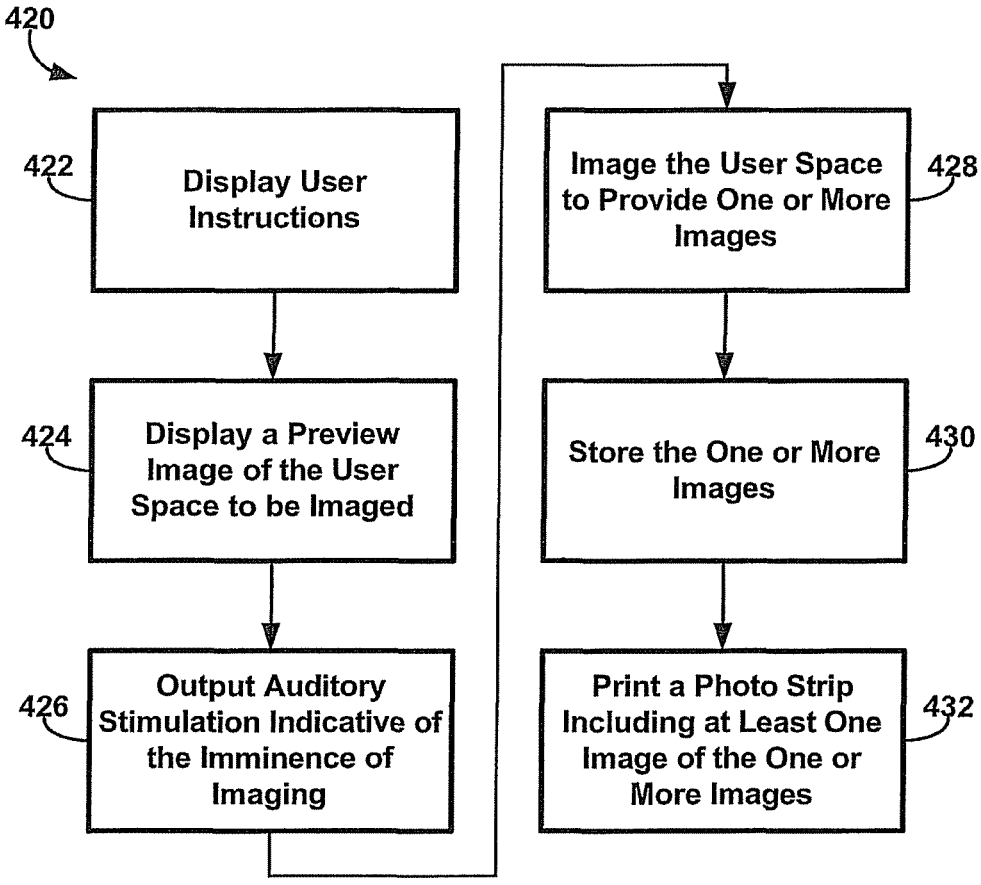

420
422
Display User Instructions
424
Display a Preview Image of the User Space to be Imaged
426
Output Auditory Stimulation Indicative of the Imminence of Imaging
428
Image the User Space to Provide One or More Images
430
Store the One or More Images
432
Print a Photo Strip Including at Least One Image of the One or More Images

*Fig. 8*

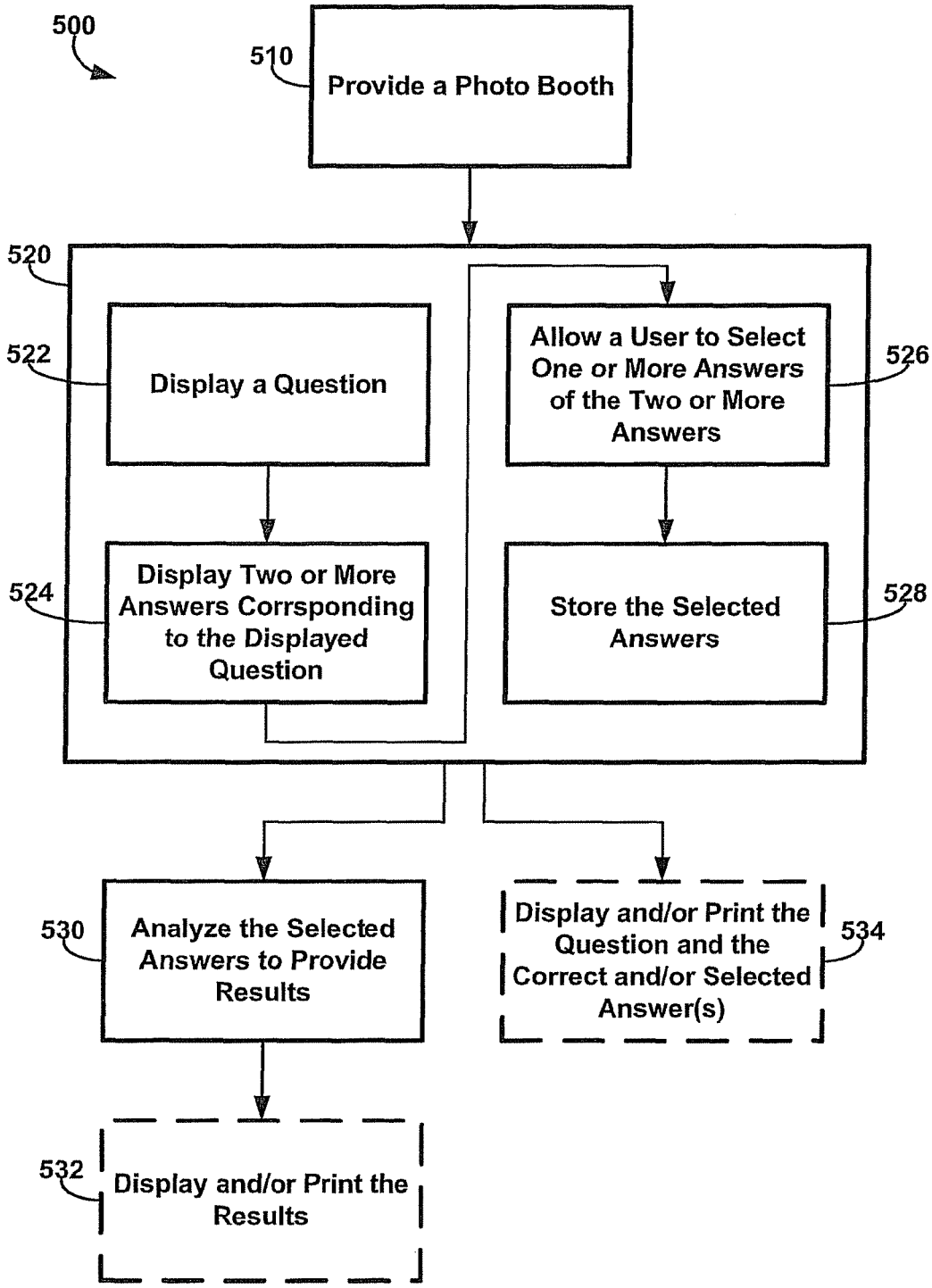

500
510
Provide a Photo Booth
520
522
Display a Question
524
Display Two or More Answers Corrsponding to the Displayed Question
526
Allow a User to Select One or More Answers of the Two or More Answers
528
Store the Selected Answers
530
Analyze the Selected Answers to Provide Results
532
Display and/or Print the Results
534
Display and/or Print the Question and the Correct and/or Selected Answer(s)

*Fig. 9*

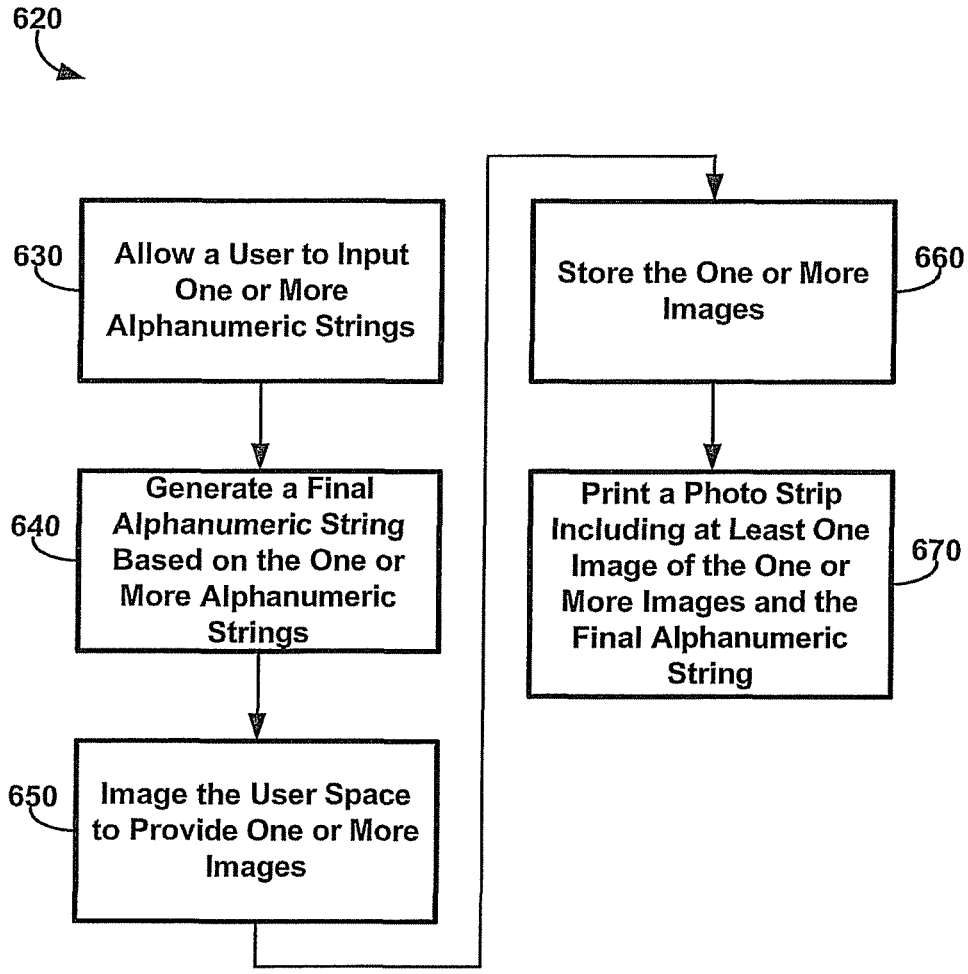

620
630
Allow a User to Input One or More Alphanumeric Strings
640
Generate a Final Alphanumeric String Based on the One or More Alphanumeric Strings
650
Image the User Space to Provide One or More Images
660
Store the One or More Images
670
Print a Photo Strip Including at Least One Image of the One or More Images and the Final Alphanumeric String

*Fig. 10*

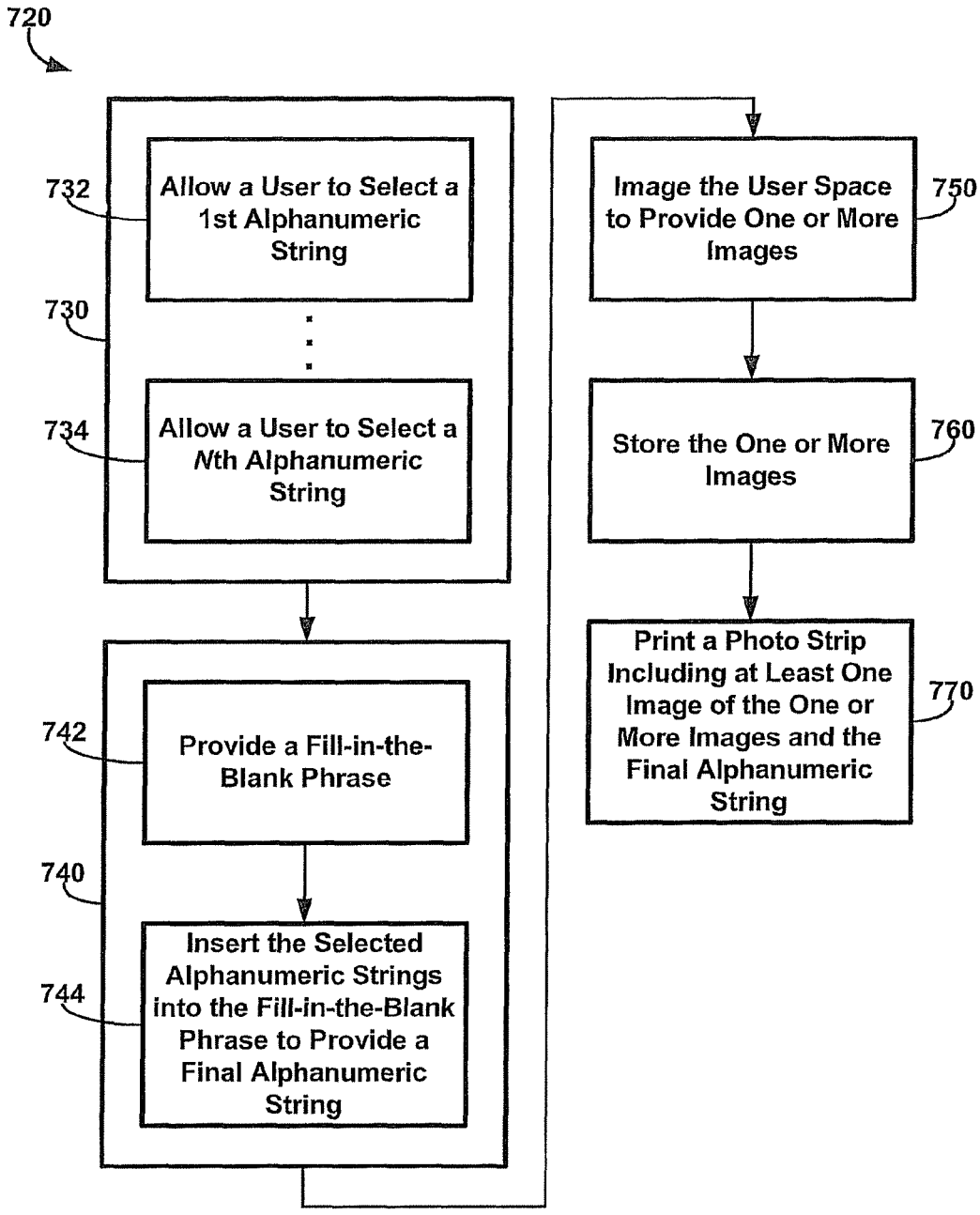

720
732
Allow a User to Select a 1st Alphanumeric String
730
734
Allow a User to Select a Nth Alphanumeric String
742
Provide a Fill-in-the-Blank Phrase
740
744
Insert the Selected Alphanumeric Strings into the Fill-in-the-Blank Phrase to Provide a Final Alphanumeric String
750
Image the User Space to Provide One or More Images
760
Store the One or More Images
770
Print a Photo Strip Including at Least One Image of the One or More Images and the Final Alphanumeric String

*Fig. 11*

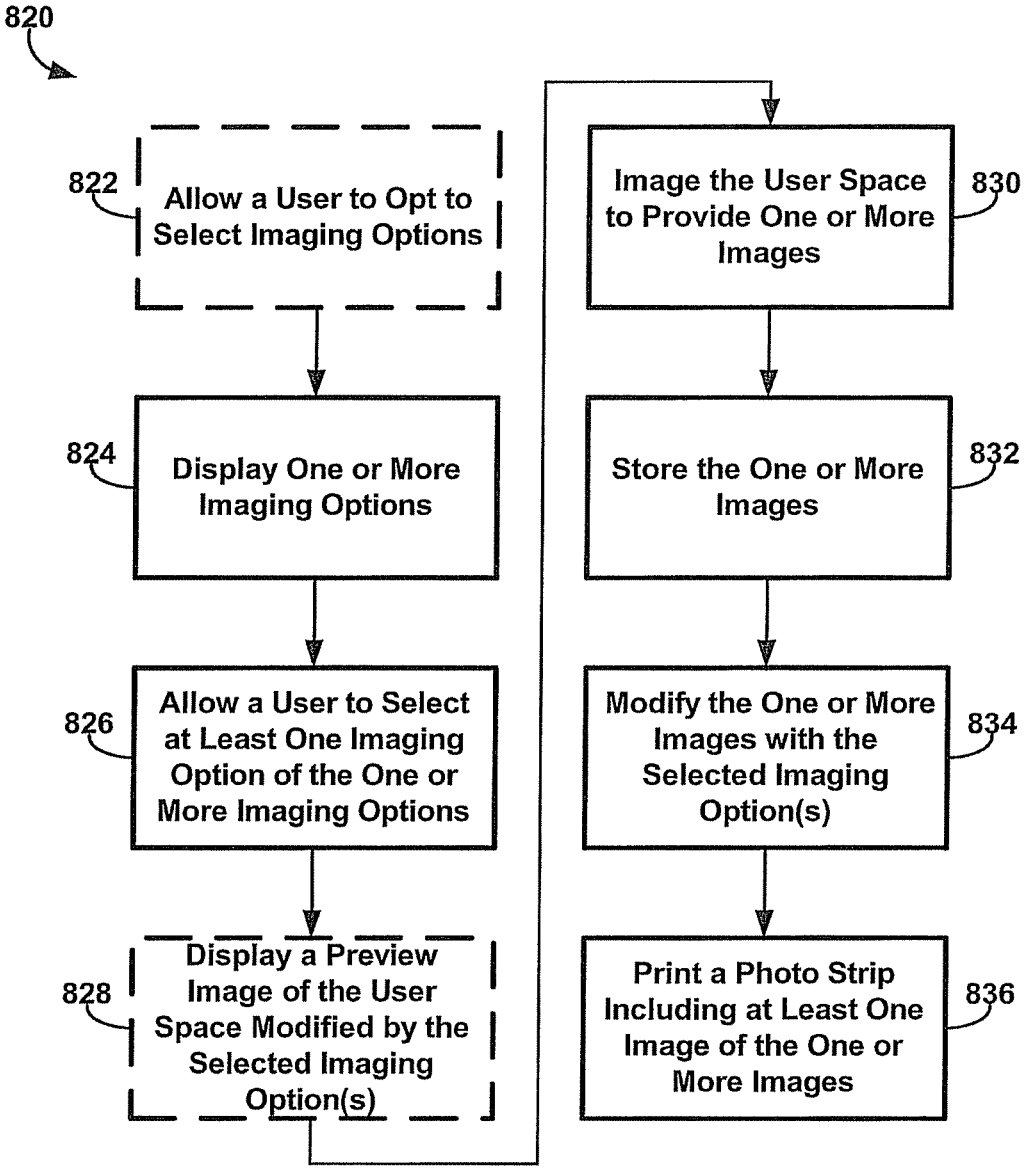

820
822
Allow a User to Opt to Select Imaging Options
824
Display One or More Imaging Options
826
Allow a User to Select at Least One Imaging Option of the One or More Imaging Options
828
Display a Preview Image of the User Space Modified by the Selected Imaging Option(s)
830
Image the User Space to Provide One or More Images
832
Store the One or More Images
834
Modify the One or More Images with the Selected Imaging Option(s)
836
Print a Photo Strip Including at Least One Image of the One or More Images

*FIG. 12*

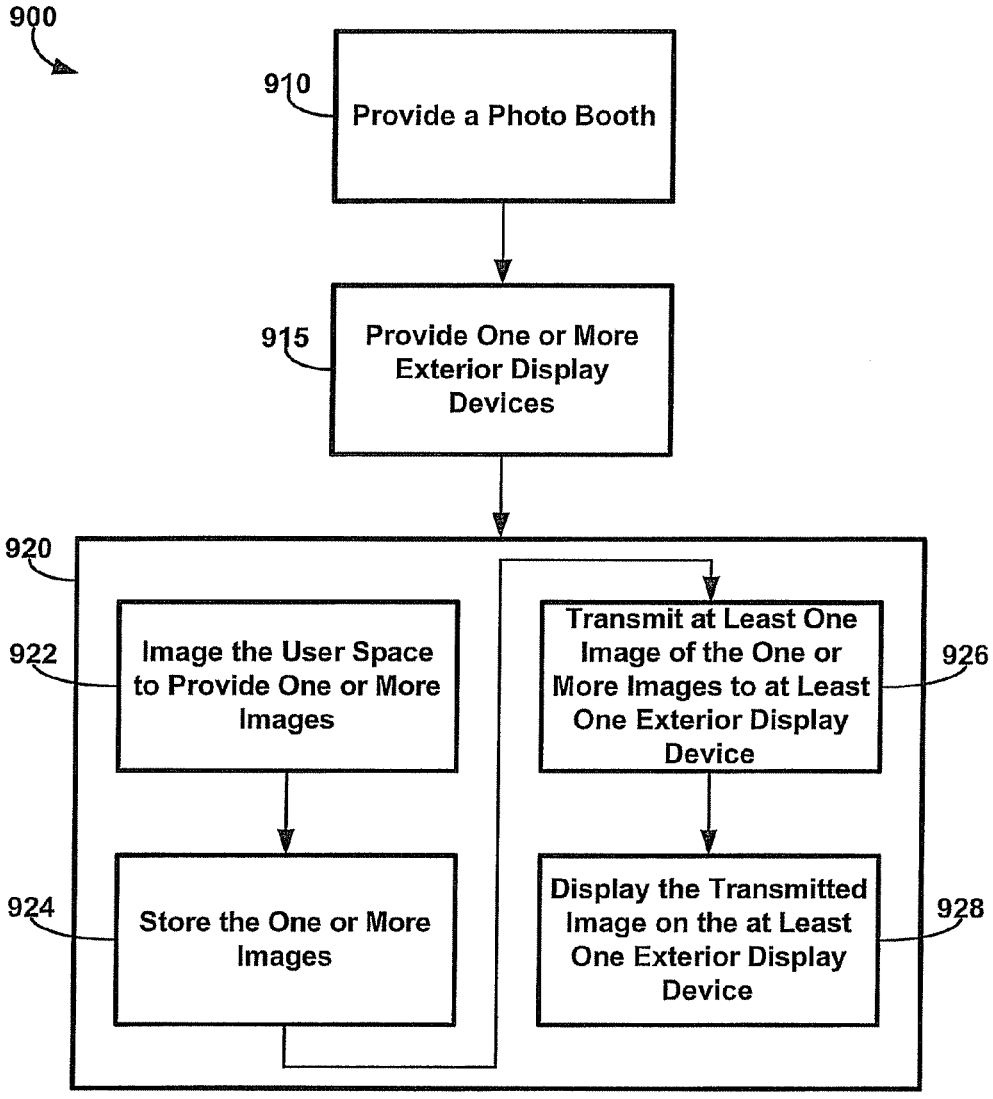

900
910
Provide a Photo Booth
915
Provide One or More Exterior Display Devices
920
922
Image the User Space to Provide One or More Images
924
Store the One or More Images
926
Transmit at Least One Image of the One or More Images to at Least One Exterior Display Device
928
Display the Transmitted Image on the at Least One Exterior Display Device

*FIG. 13*

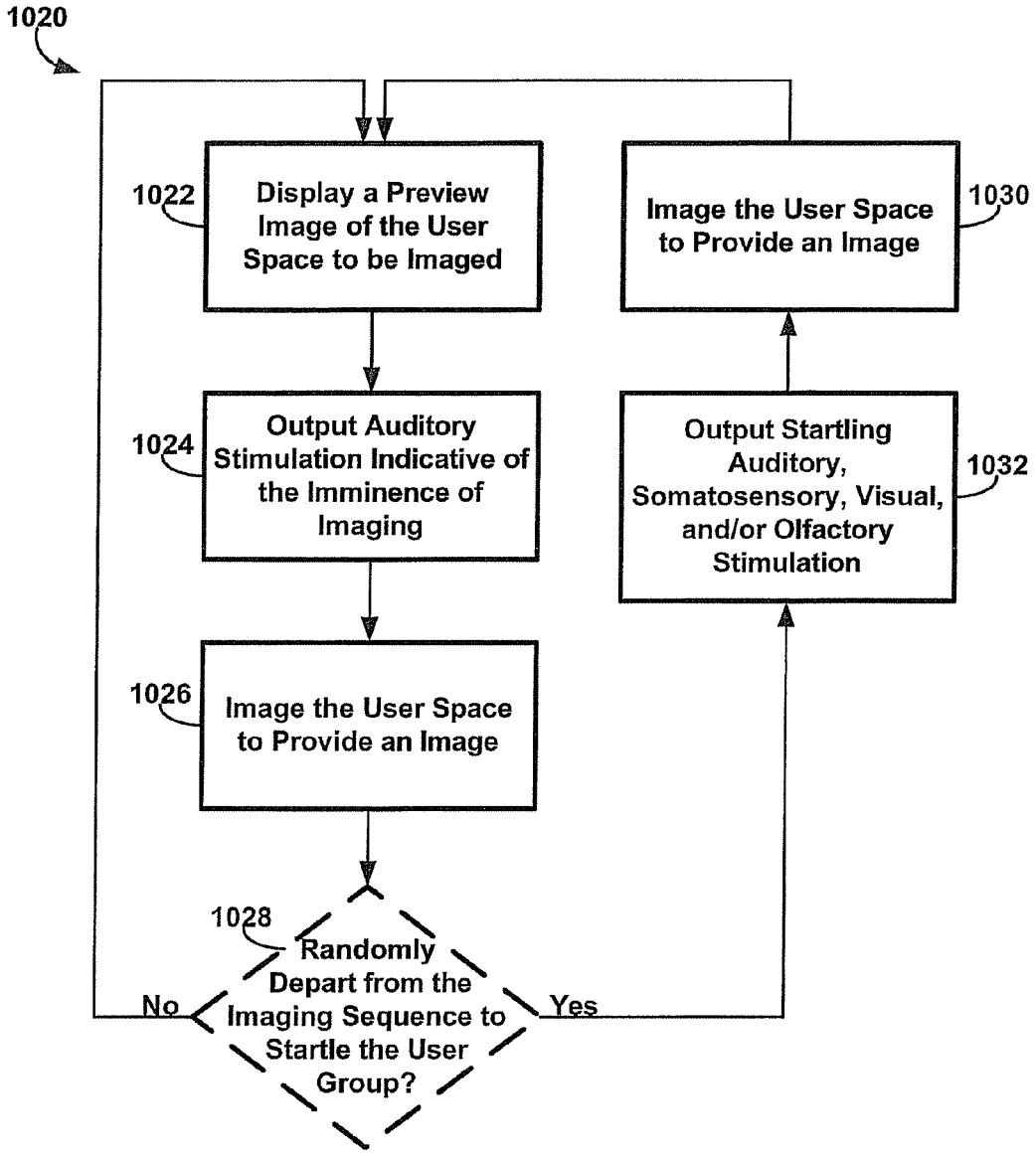

1020
1022
Display a Preview Image of the User Space to be Imaged
1024
Output Auditory Stimulation Indicative of the Imminence of Imaging
1026
Image the User Space to Provide an Image
1028
Randomly Depart from the Imaging Sequence to Startle the User Group?
No
Yes
1030
Image the User Space to Provide an Image
1032
Output Startling Auditory, Somatosensory, Visual, and/or Olfactory Stimulation

FIG. 14

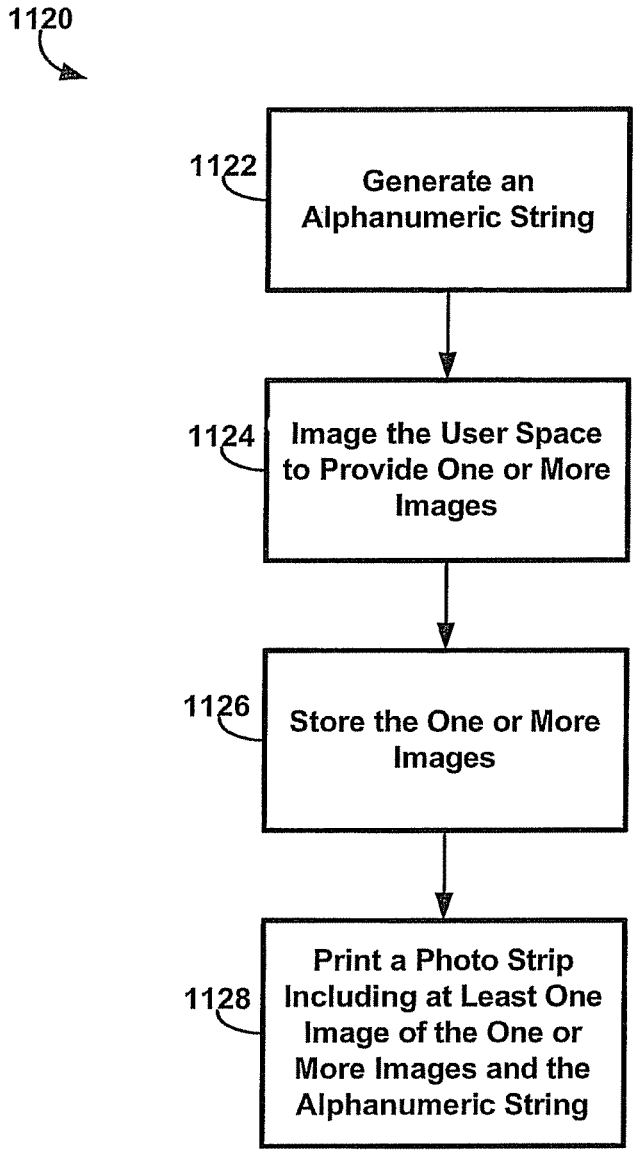

1120
1122
Generate an Alphanumeric String
1124
Image the User Space to Provide One or More Images
1126
Store the One or More Images
1128
Print a Photo Strip Including at Least One Image of the One or More Images and the Alphanumeric String

FIG. 15

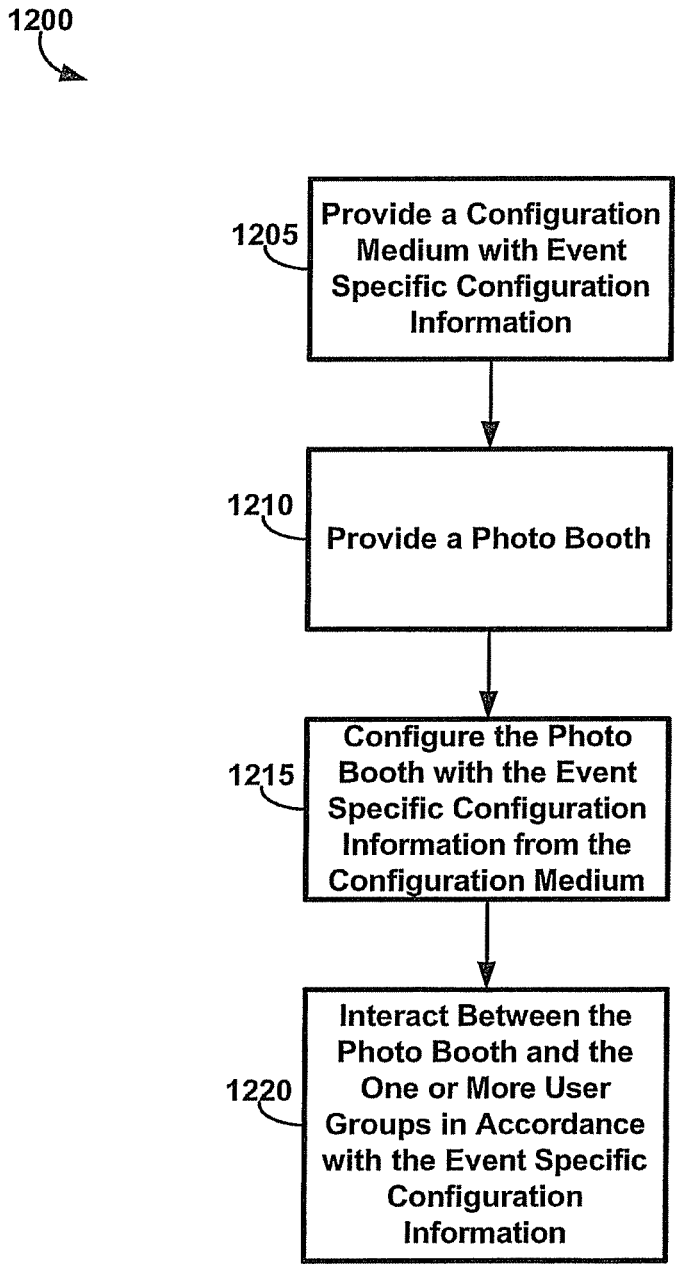

1200
1205
Provide a Configuration Medium with Event Specific Configuration Information
1210
Provide a Photo Booth
1215
Configure the Photo Booth with the Event Specific Configuration Information from the Configuration Medium
1220
Interact Between the Photo Booth and the One or More User Groups in Accordance with the Event Specific Configuration Information

FIG. 16A

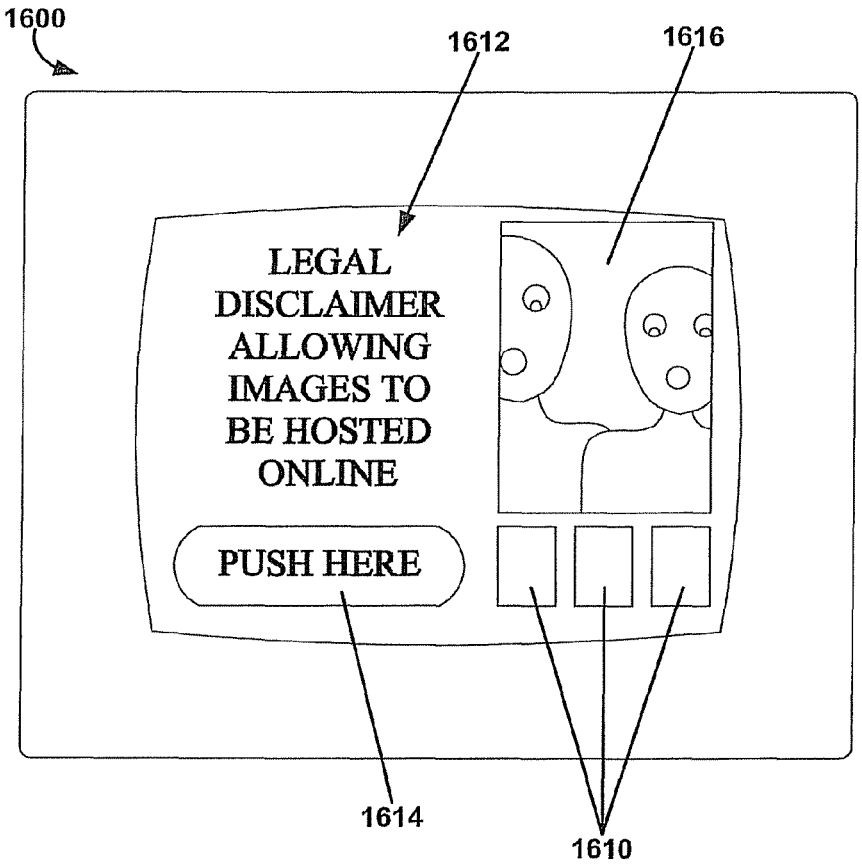

1600
1612
1616
LEGAL DISCLAIMER ALLOWING IMAGES TO BE HOSTED ONLINE
PUSH HERE
1614
1610

*FIG. 16B*

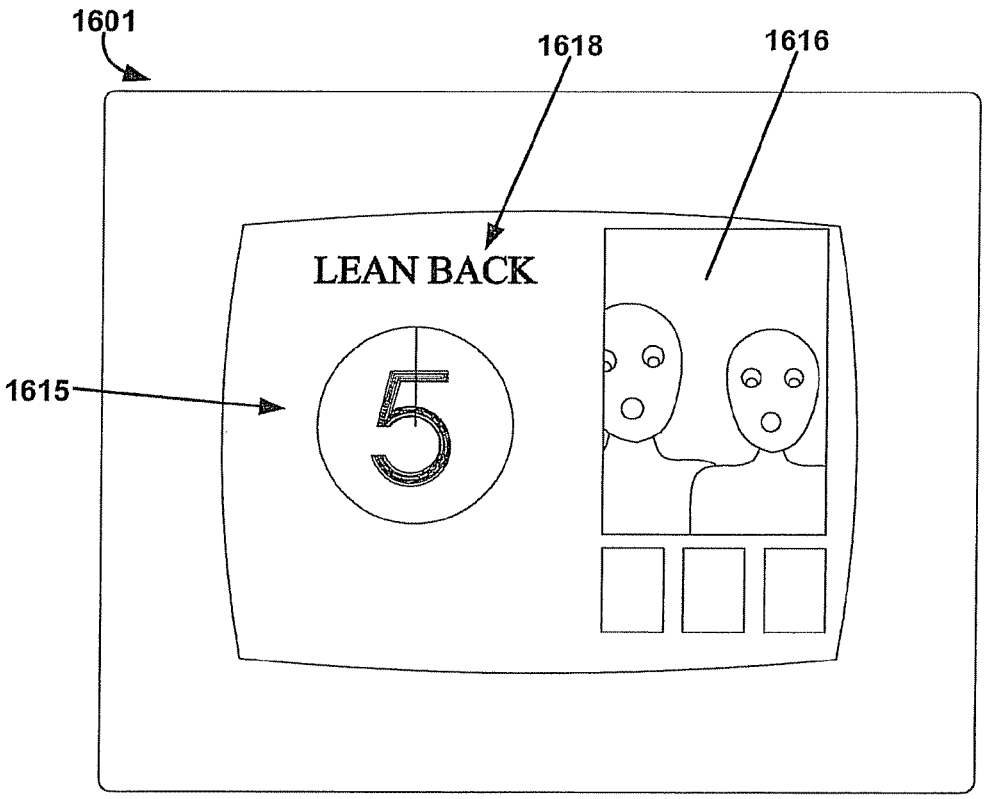


*FIG. 16C*

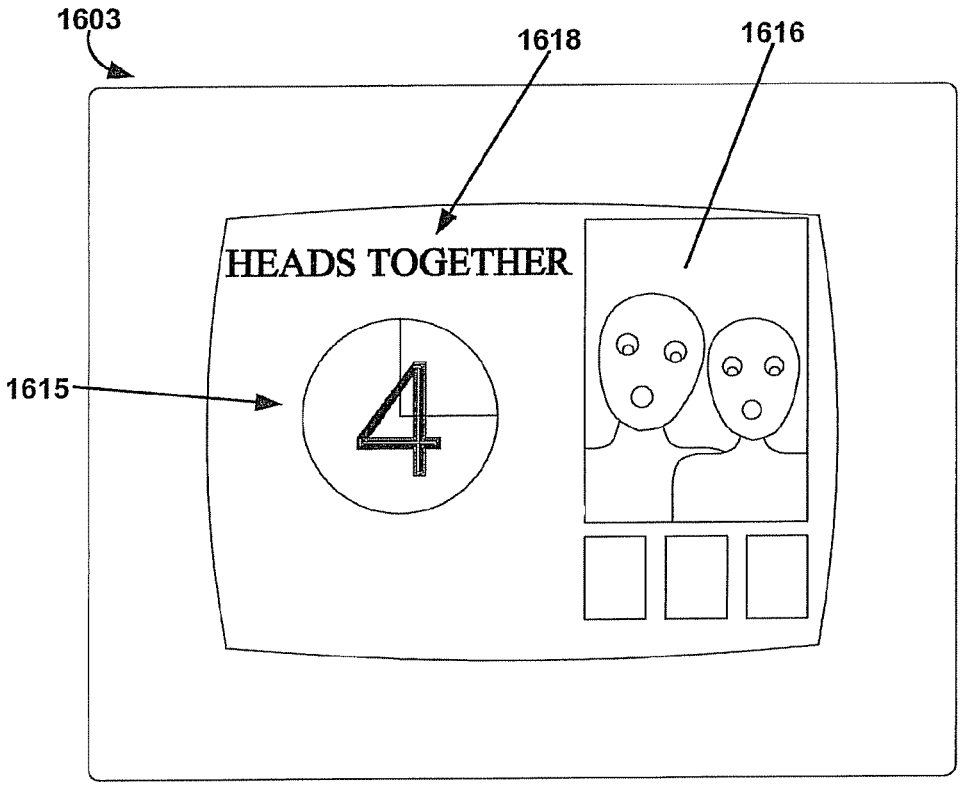


FIG. 16D

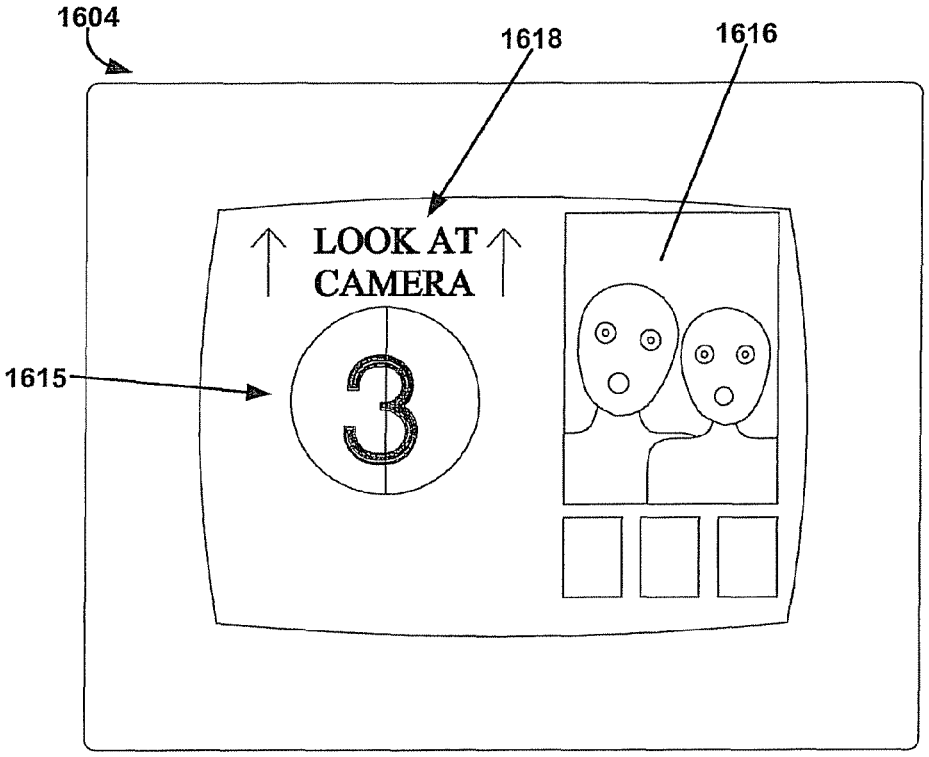


FIG. 16E

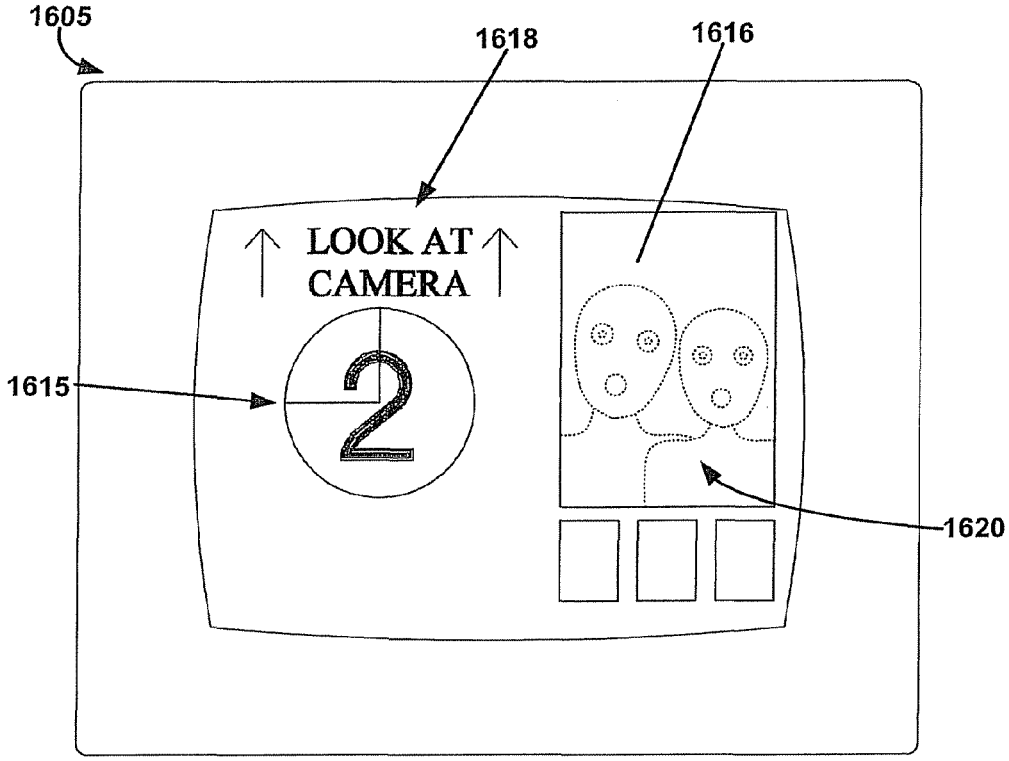


FIG. 16F

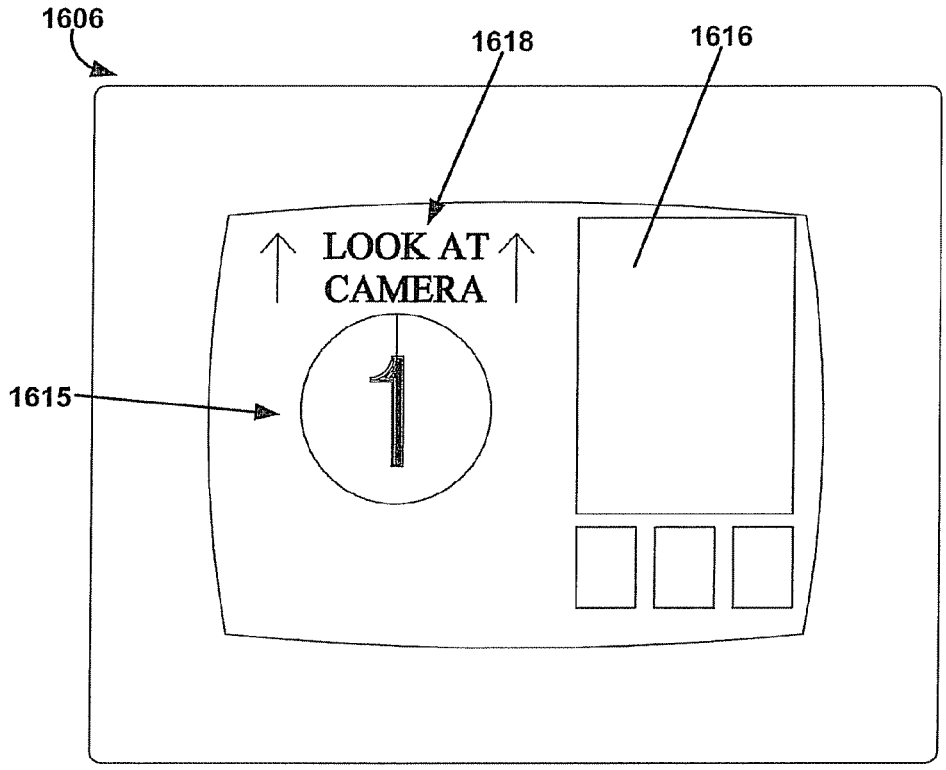


FIG. 16G

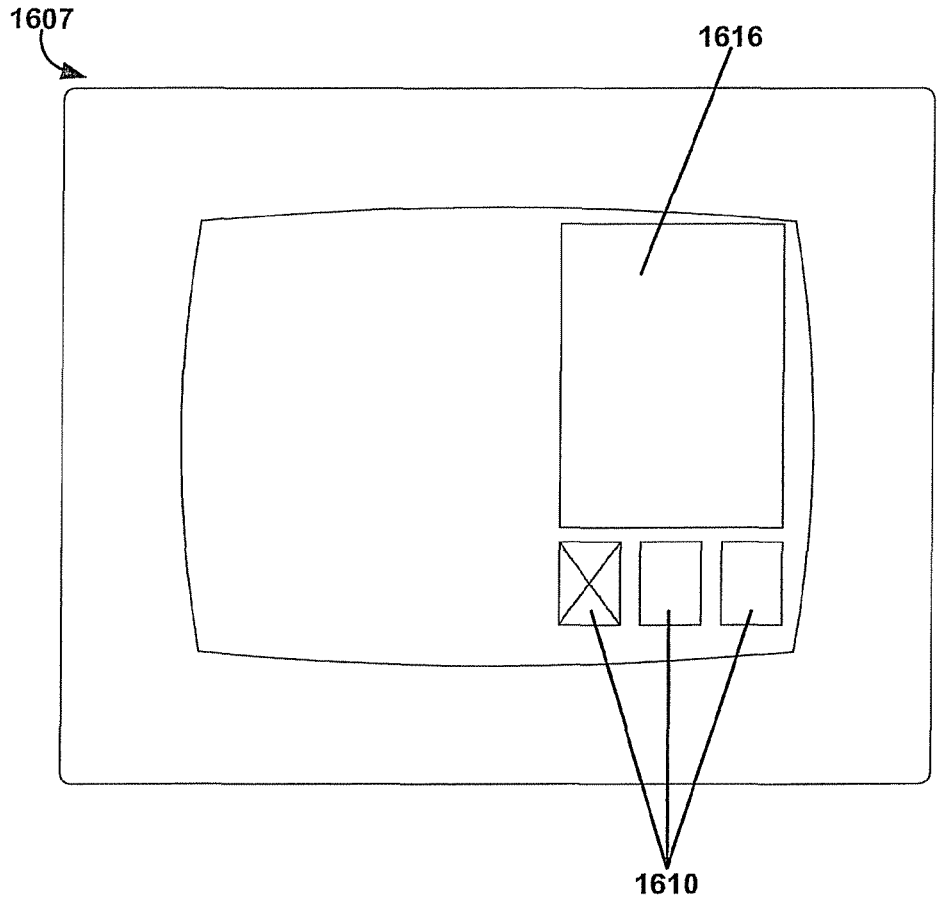


FIG. 16H

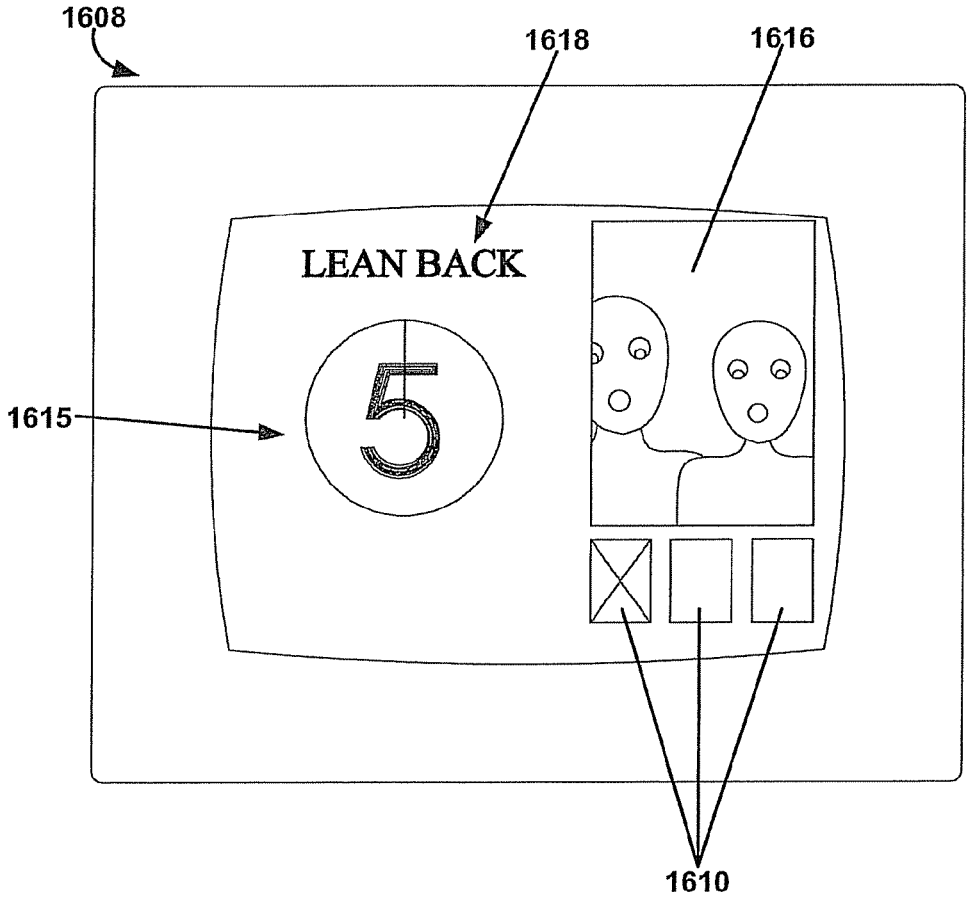


*FIG. 16I*

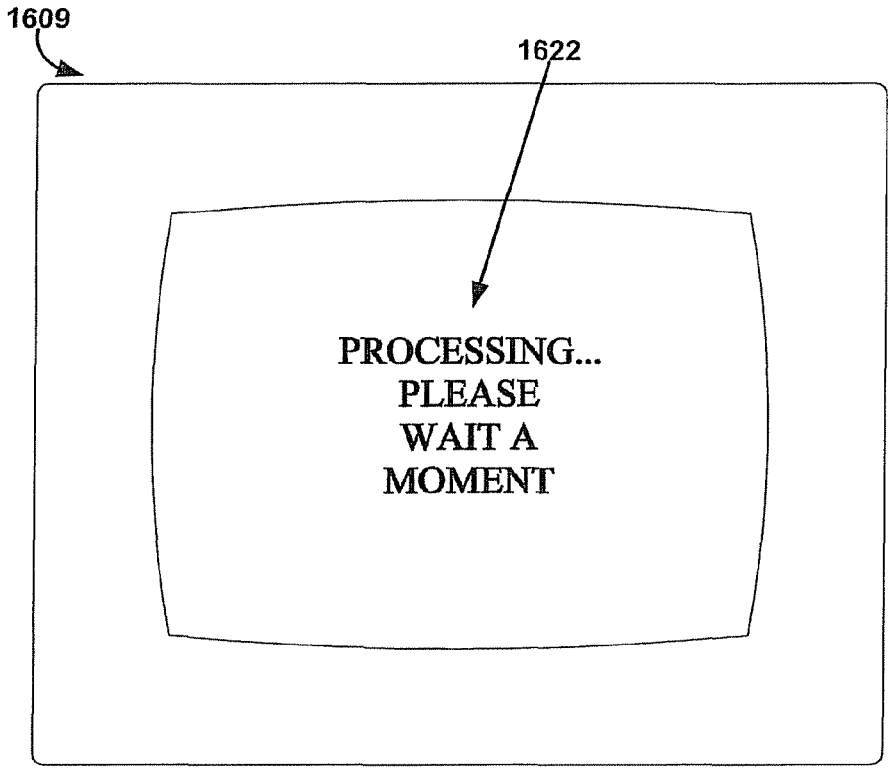


FIG. 17A

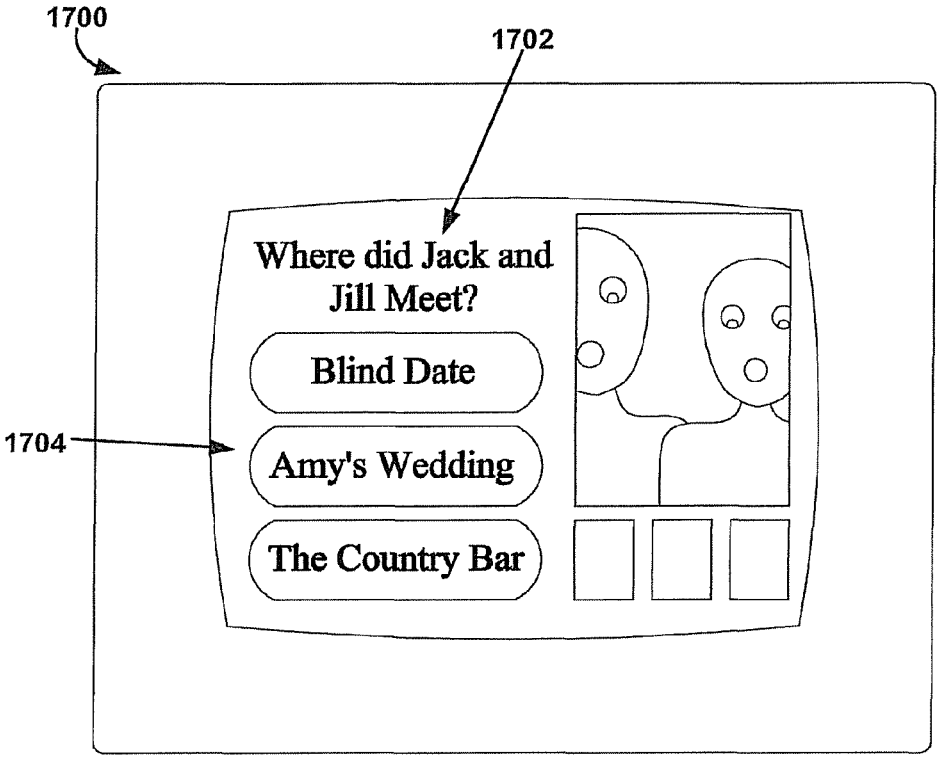

1700
1702
Where did Jack and Jill Meet?
Blind Date
1704
Amy's Wedding
The Country Bar

FIG. 17B

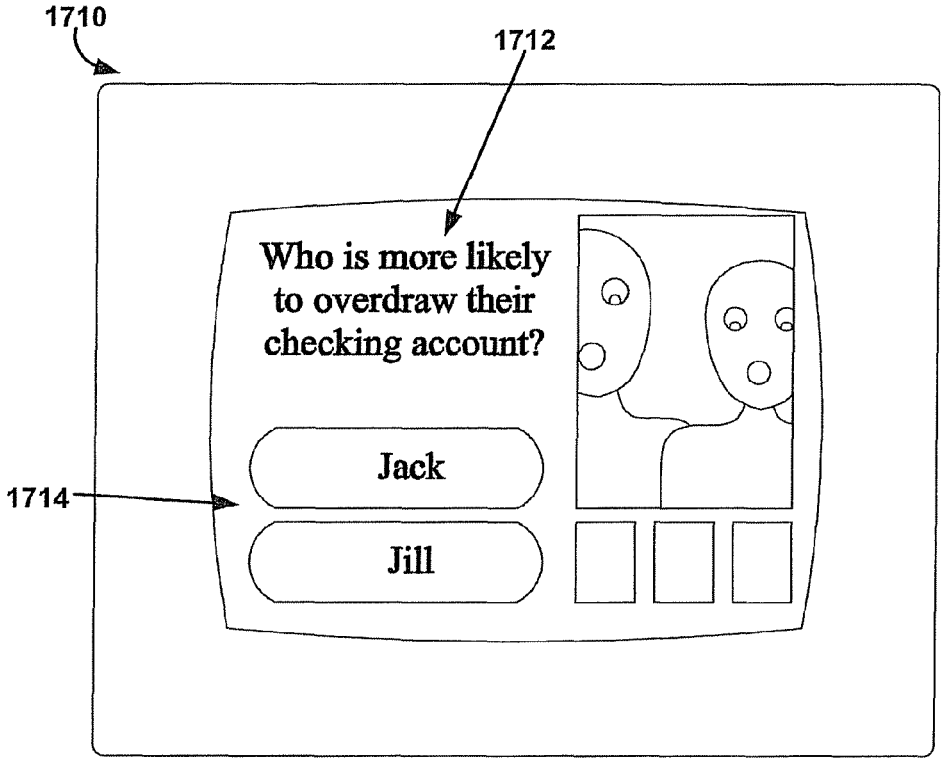

1710
1712
Who is more likely to overdraw their checking account?
1714
Jack
Jill

FIG. 17C

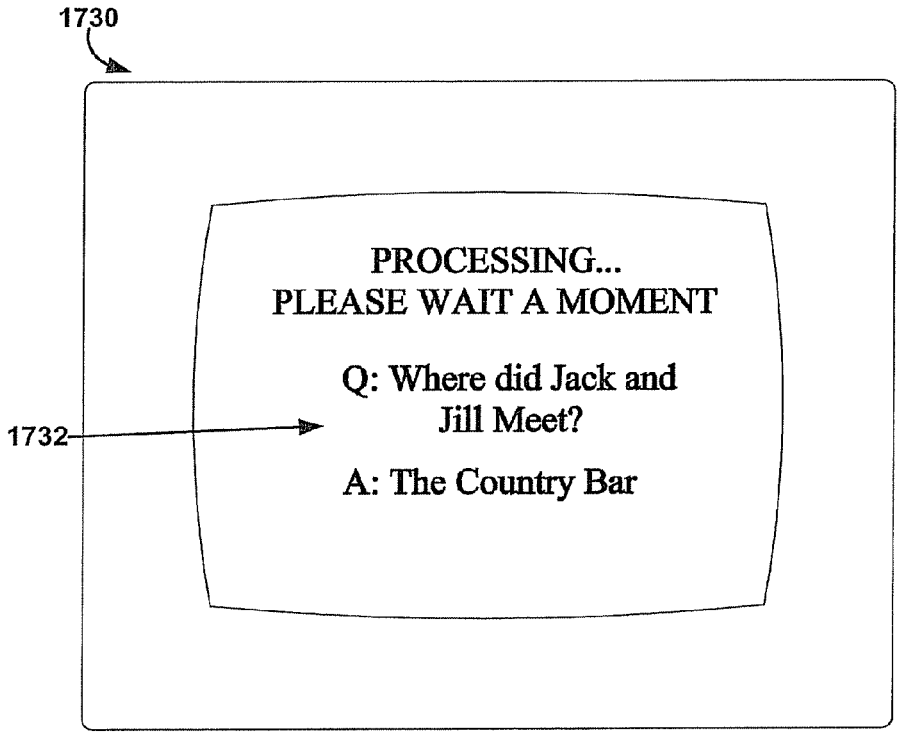

1730
PROCESSING...
PLEASE WAIT A MOMENT
Q: Where did Jack and Jill Meet?
A: The Country Bar
1732

FIG. 18A

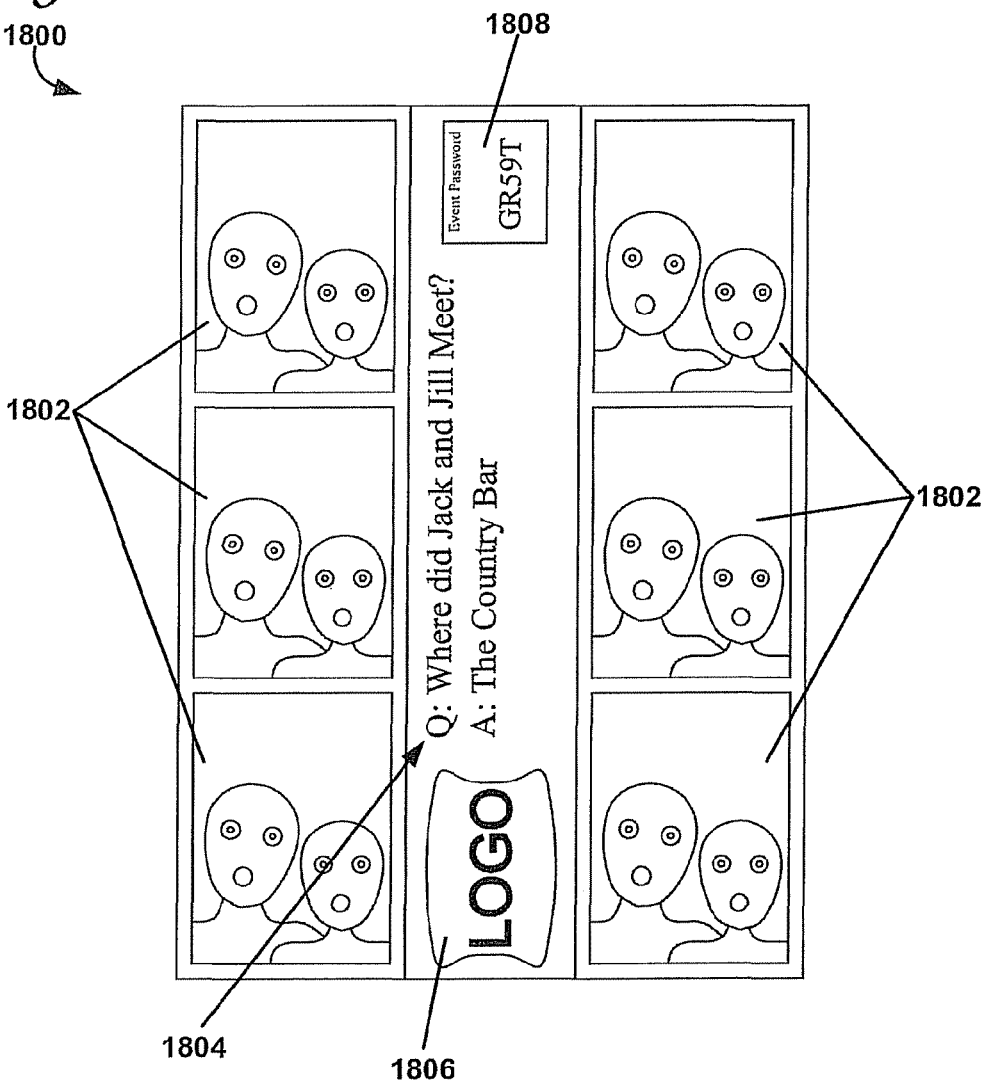

1800
1808
Event Password
GR59T
1802
Q: Where did Jack and Jill Meet?
A: The Country Bar
1802
LOGO
1804
1806

FIG. 18B

1850

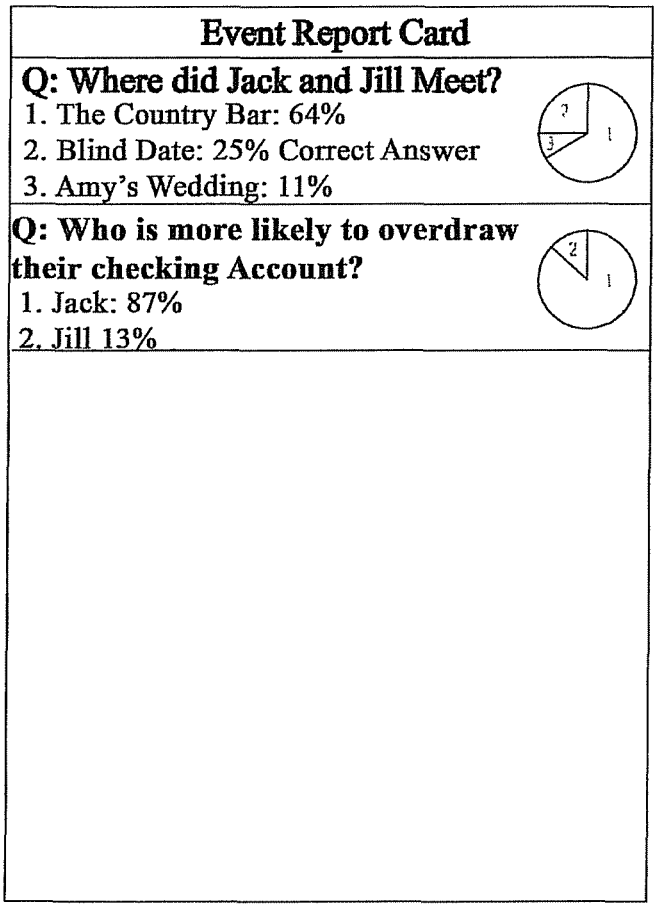

Event Report Card
Q: Where did Jack and Jill Meet?
1. The Country Bar: 64%
2. Blind Date: 25% Correct Answer
3. Amy's Wedding: 11%
Q: Who is more likely to overdraw their checking Account?
1. Jack: 87%
2. Jill 13%

FIG. 19A

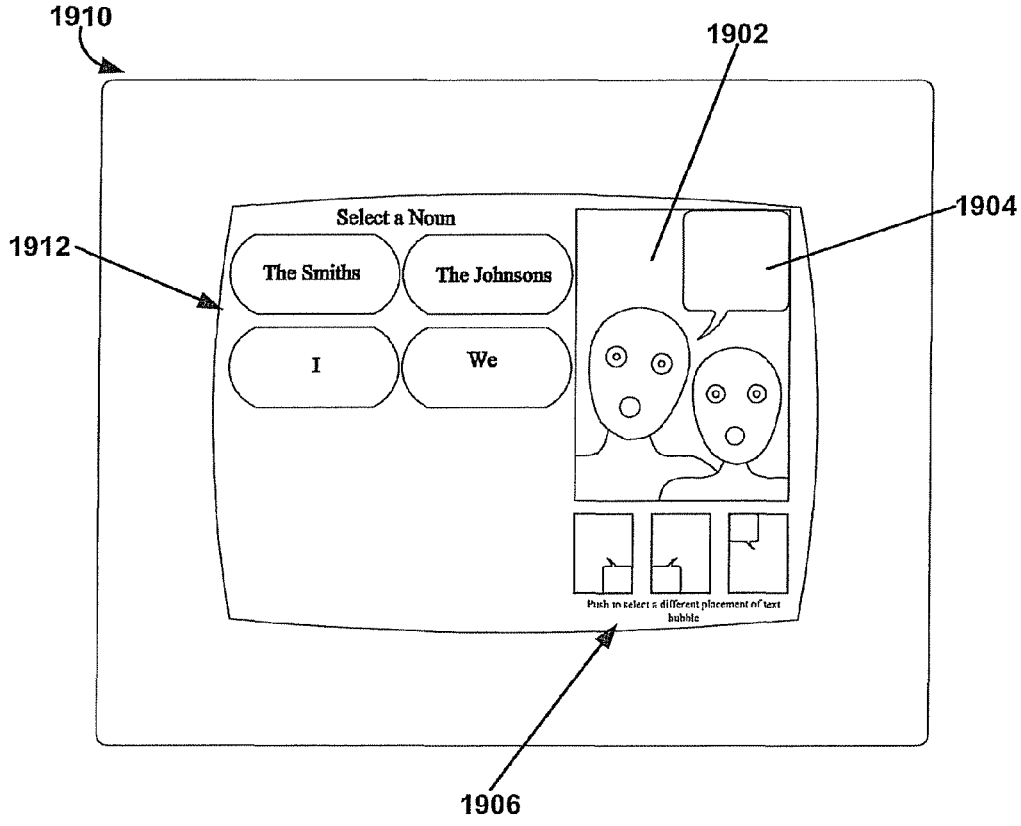

1910
1902
1904
1912
Select a Noun
The Smiths
The Johnsons
I
We
1906

*FIG. 19B*

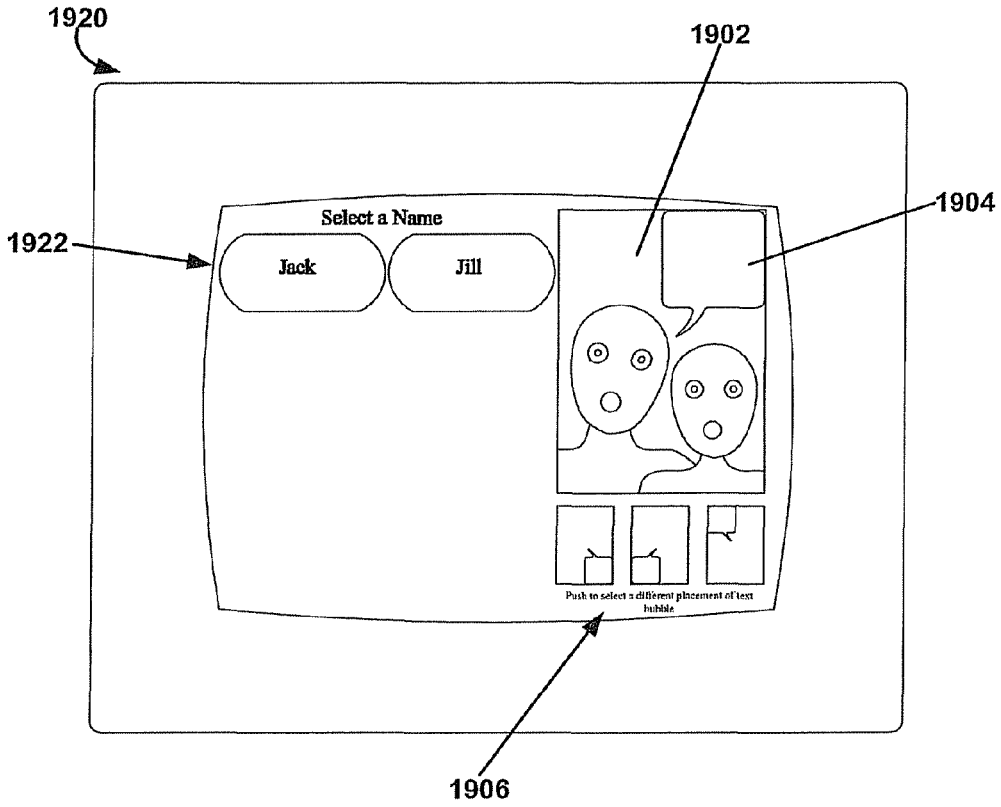

1920
1902
1904
1922
Select a Name
Jack
Jill
Push to select a different placement of text bubble
1906

*FIG. 19C*

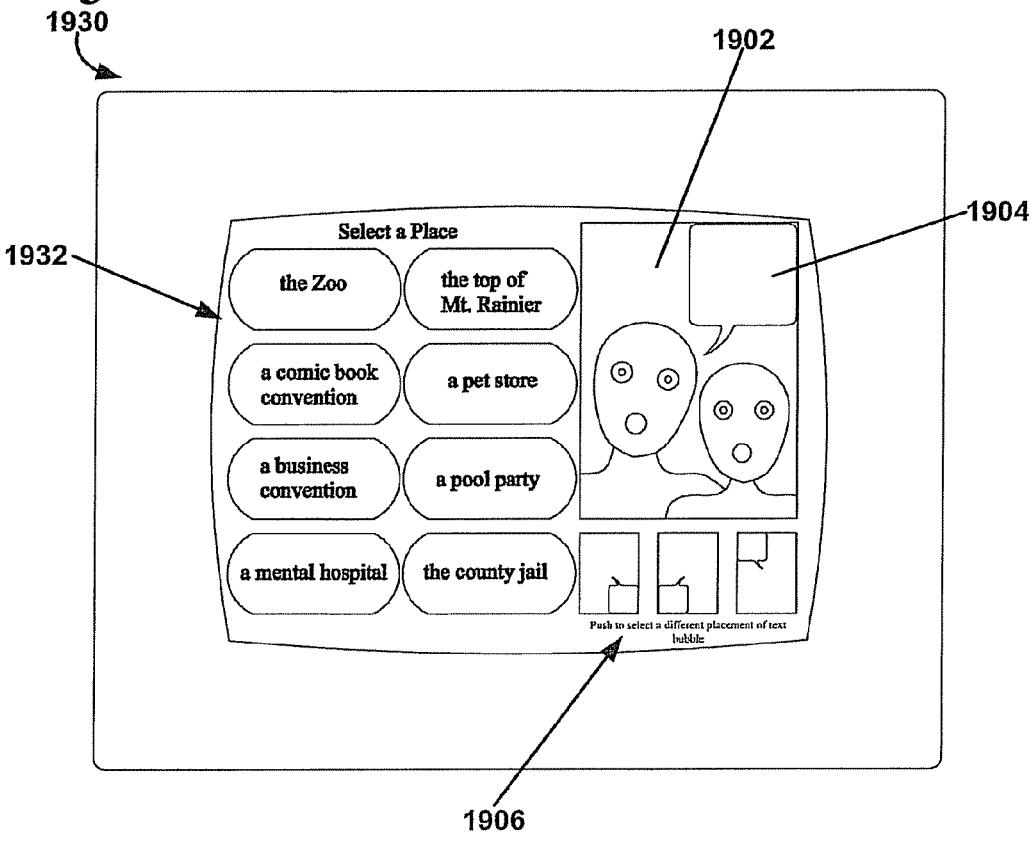

1930
1902
1904
1932
Select a Place
the Zoo
the top of Mt. Rainier
a comic book convention
a pet store
a business convention
a pool party
a mental hospital
the county jail
Push to select a different placement of text bubble
1906

FIG. 19D

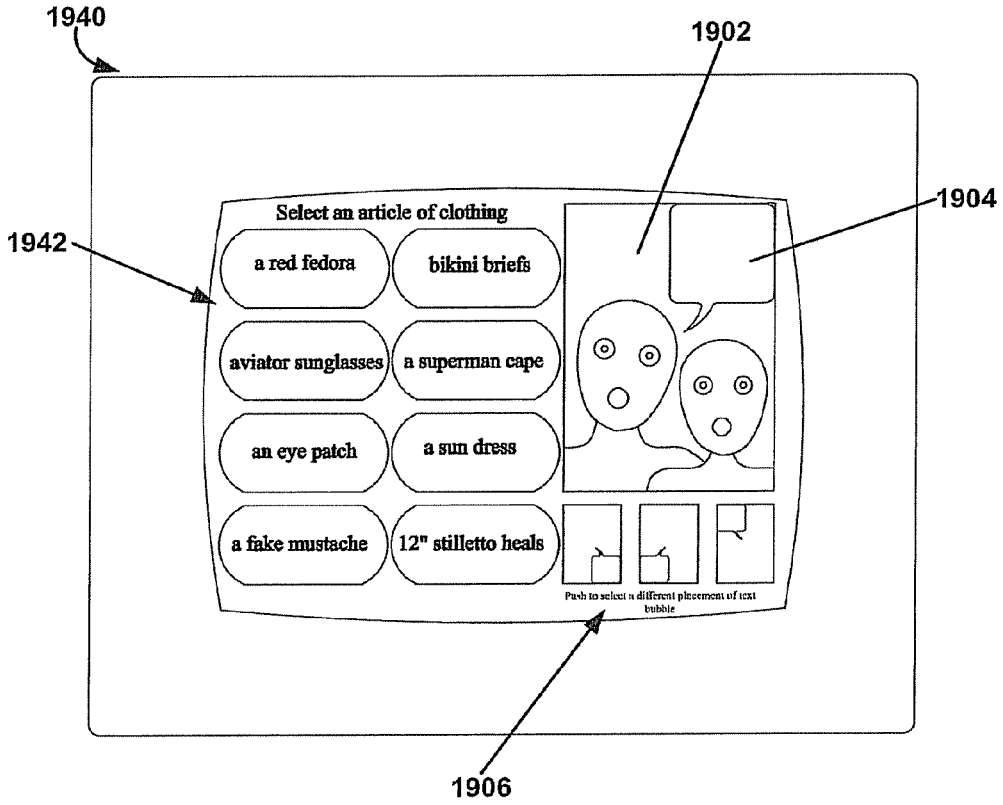

1940
1902
1904
1942
Select an article of clothing
a red fedora
bikini briefs
aviator sunglasses
a superman cape
an eye patch
a sun dress
a fake mustache
12" stilletto heals
Push to select a different placement of text bubble
1906

*FIG. 19E*

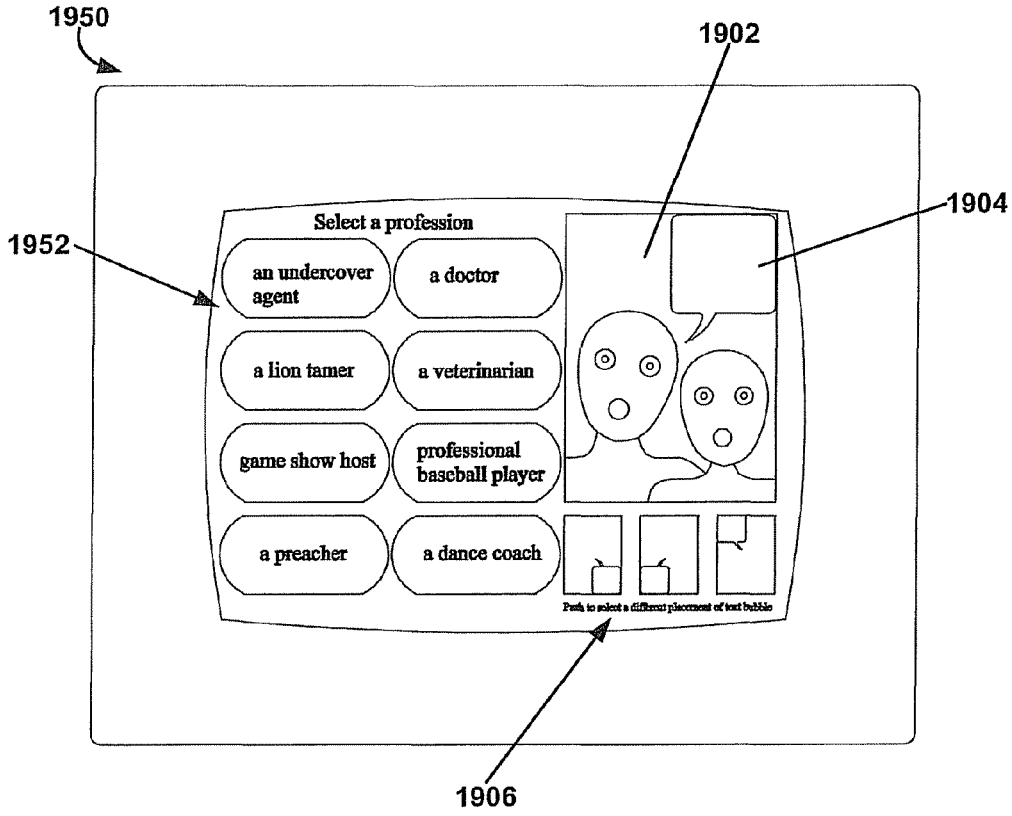

1950
1902
1904
1952
Select a profession
an undercover agent
a doctor
a lion tamer
a veterinarian
game show host
professional baseball player
a preacher
a dance coach
1906

*FIG. 19F*

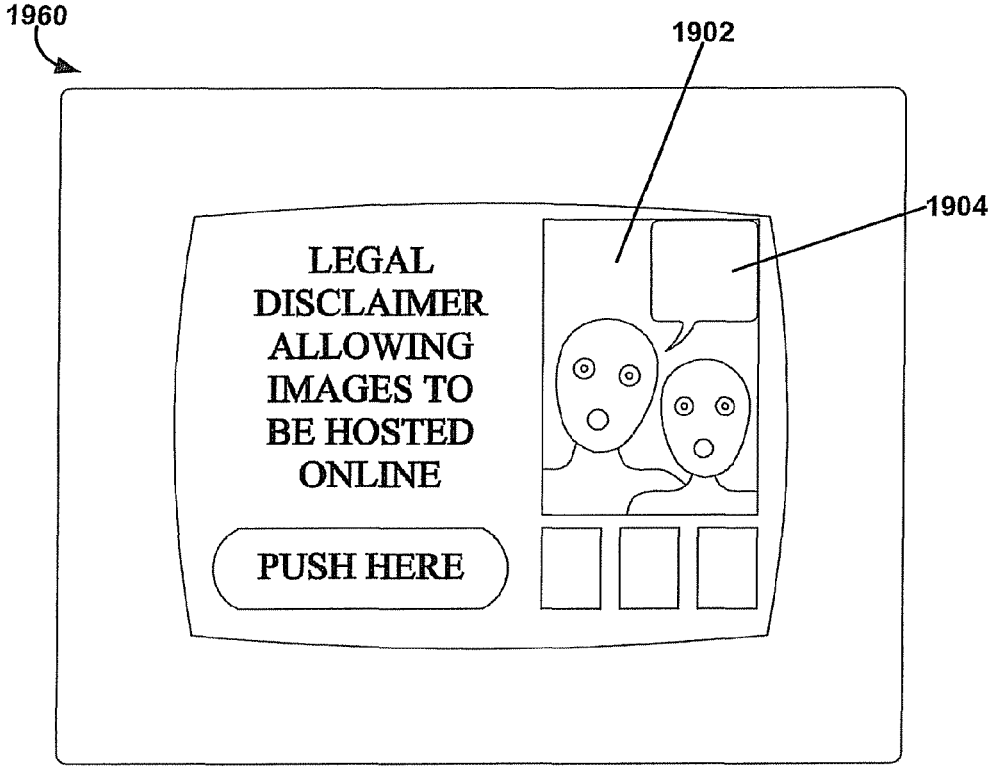

1960
1902
1904
LEGAL DISCLAIMER ALLOWING IMAGES TO BE HOSTED ONLINE
PUSH HERE

FIG. 20

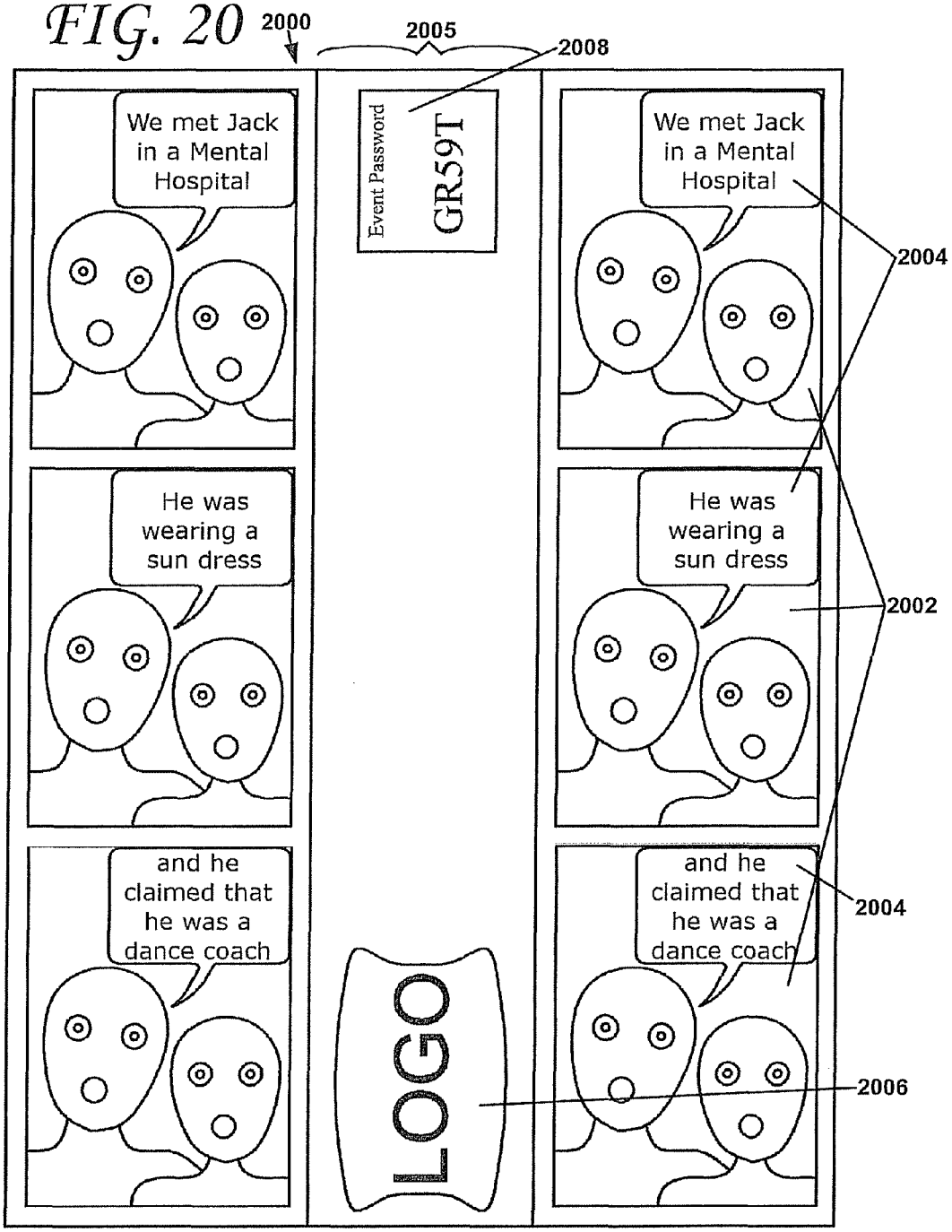

2000
2005
2008
We met Jack in a Mental Hospital
Event Password
GR59T
We met Jack in a Mental Hospital
2004
He was wearing a sun dress
He was wearing a sun dress
2002
and he claimed that he was a dance coach
and he claimed that he was a dance coach
2004
LOGO
2006

FIG. 21A

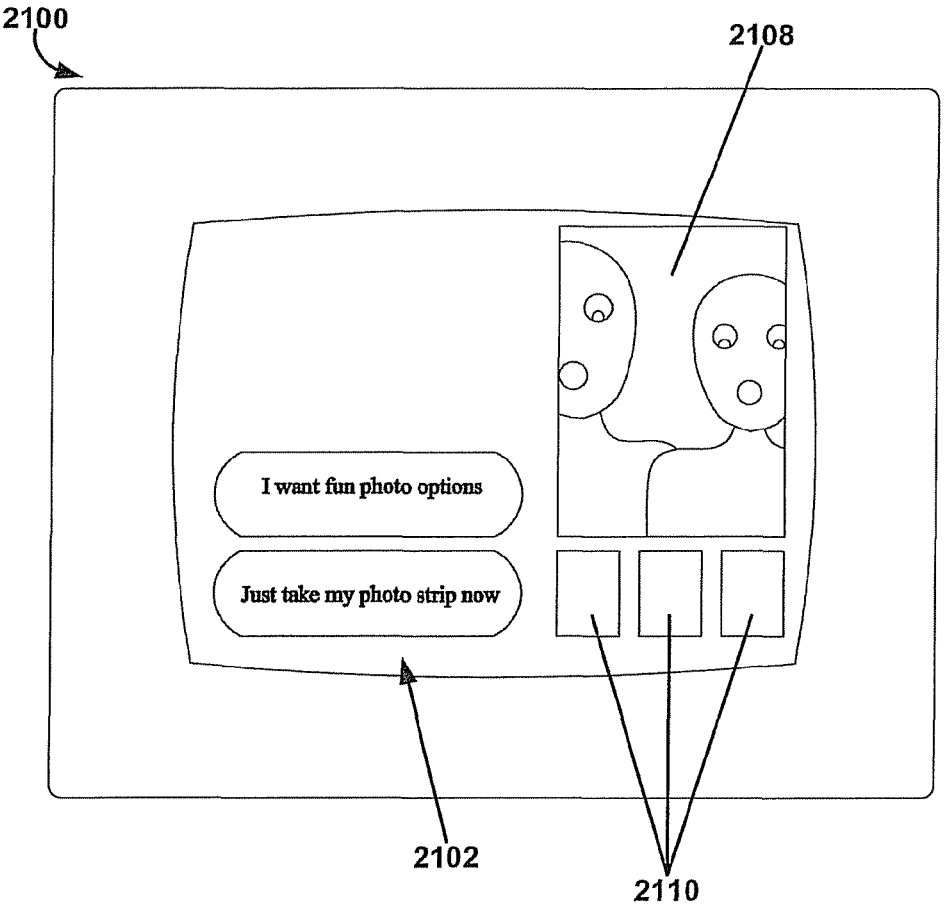
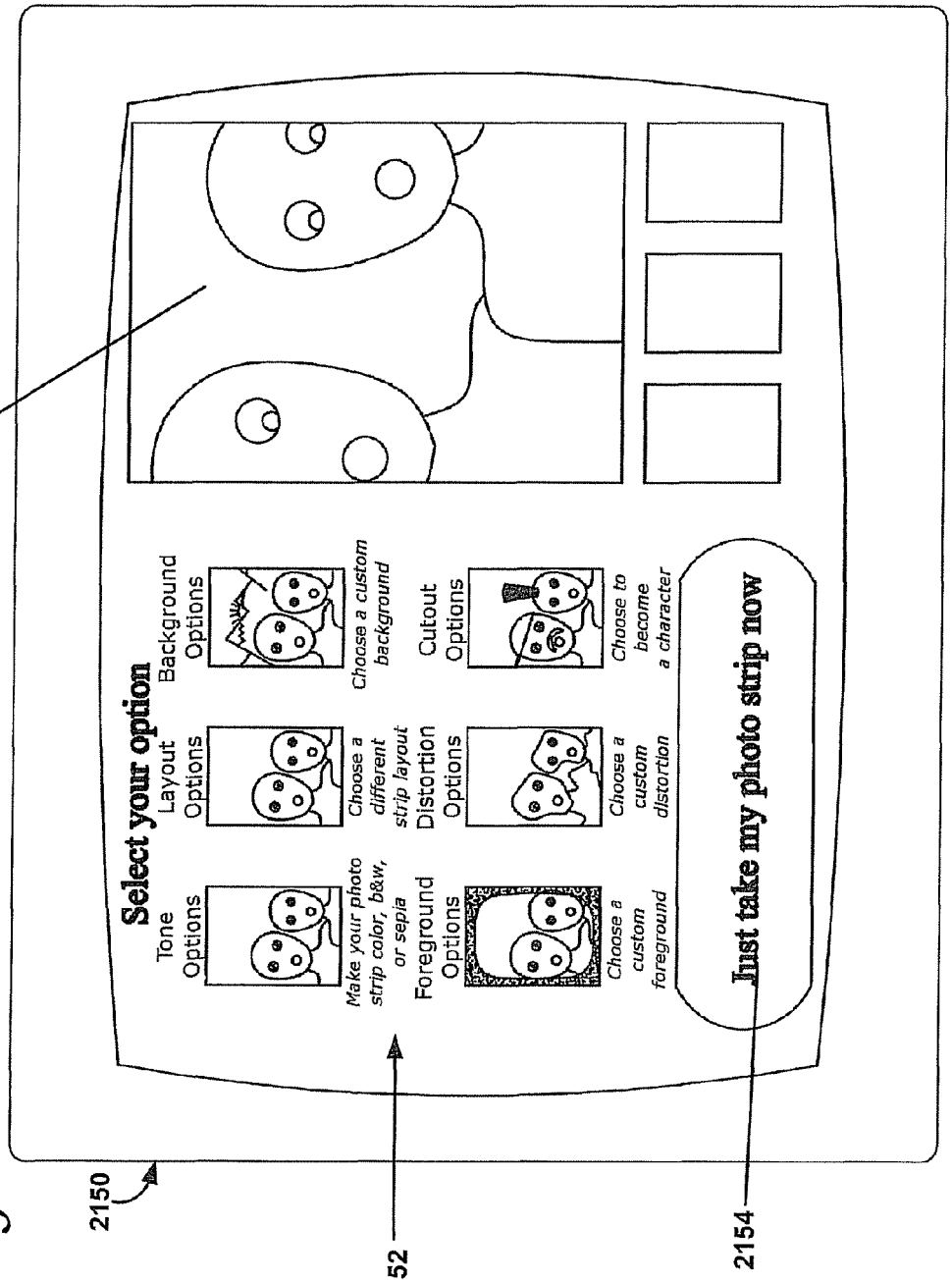

2100
2108
I want fun photo options
Just take my photo strip now
2102
2110

FIG. 21B


2108
Select your option
Tone Options
Make your photo strip color, b&w, or sepia
Layout Options
Choose a different strip layout
Background Options
Choose a custom background
Foreground Options
Choose a custom foreground
Distortion Options
Choose a custom distortion
Cutout Options
Choose to become a character
Just take my photo strip now
2150
2152
2154

# PHOTO BOOTH SYSTEMS AND METHODS

## CROSS-REFERENCE TO RELATED APPLICATION

The present application is a continuation-in-part application of U.S. patent application Ser. No. 12/172,795 filed Jul. 14, 2008, which is incorporated herein by reference in its entirety.

## BACKGROUND

The present invention relates generally to photo booth systems and methods. More particularly, the present invention pertains to systems that include photo booths and to methods that provide photo booths and interaction between the photo booths and one or more user groups.

## SUMMARY

Generally, the present invention includes photo booth systems and methods of using photo booth systems. A user may interact with the photo booth systems to, e.g., take photographs, conduct quiz games, add text and/or text in speech bubbles to photographs, manipulate photographs, and/or play raffle games.

In one embodiment of a method of using a photo booth according to the present invention, the method includes providing a photo booth, wherein the photo booth defines a user space. The photo booth includes: computing apparatus; printing apparatus operably coupled to the computing apparatus; imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space; input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus; and output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus includes a display.

Further, the method includes interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups includes one or more users. Interacting between the photo booth and each user group of the one or more user groups includes: displaying on the display a question from one or more questions provided by the computing apparatus to the user group; displaying on the display two or more answers from a plurality of answers provided by the computing apparatus to the user group, wherein the displayed two or more answers correspond to the displayed question; allowing the user group to select one or more of the two or more displayed answers using the input apparatus; and storing the one or more selected answers with the computing apparatus.

Still further, the method includes analyzing the selected answers stored using the computing apparatus to provide results.

In another embodiment of a method of using a photo booth for one or more events, the method includes providing a photo booth, wherein the photo booth defines a user space. The photo booth includes: computing apparatus; printing apparatus operably coupled to the computing apparatus; imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space; input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input info nation into the computing apparatus; and output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus includes a display.

Further, the method includes interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups includes one or more users. Interacting between the photo booth and each user group of the one or more user groups includes: displaying on the display a question from one or more questions provided by the computing apparatus to the user group; allowing the user group to input an answer using the input apparatus; storing the answer with the computing apparatus; imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; and printing using the printing apparatus a photo strip. The photo strips includes at least one image of the one or more images.

Still further, the method includes printing using the printing apparatus the stored answers.

In another embodiment of a method of using a photo booth for one or more events, the method includes providing a photo booth, wherein the photo booth defines a user space. The photo booth includes: computing apparatus; printing apparatus operably coupled to the computing apparatus; imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space; input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus; and output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus includes a display.

Further, the method includes interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups includes one or more users. Interacting between the photo booth and each user group of the one or more user groups includes: allowing the user group to input one or more alphanumeric strings using the input apparatus into the computing apparatus; generating a final alphanumeric string based on the one or more alphanumeric strings using the computing apparatus; imaging the user space with the imaging apparatus to provide two or more images; storing the two or more images with the computing apparatus; and printing using the printing apparatus a photo strip. The photo strip includes: at least two images of the two or more images; and the final alphanumeric string.

At least in one embodiment, allowing the user group to input one or more alphanumeric strings using the input apparatus into the computing apparatus may include: displaying on the display a plurality of first alphanumeric strings provided by the computing apparatus; allowing the user group to select a first alphanumeric string of the plurality of first alphanumeric strings; displaying on the display a plurality of second alphanumeric strings provided by the computing apparatus; and allowing the user group to select a second alphanumeric string of a plurality of second alphanumeric strings.

Further, generating the final alphanumeric string based on the one or more alphanumeric strings using the computing apparatus includes: providing one or more fill-in-the-blank phrases with the computing apparatus; and inserting at least the first selected alphanumeric string and the second selected alphanumeric string into a fill-in-the-blank phrase of the one or more fill-in-the-blank phrases to provide the final alphanumeric string.

In another embodiment of a method of using a photo booth, the method may include providing a photo booth and interacting between the photo booth and one or more user groups. Each user group of the one or more user groups may include one or more users. Interacting between the photo booth and each user group of the one or more user groups may include: imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images using the computing apparatus; printing using the printing apparatus a photo strip (e.g., the photo strip includes at least one image of the one or more images); displaying on the display one or more imaging options, wherein the one or more imaging options include reprint options; allowing the user group to select one or more imaging options from the one or more imaging options using the input apparatus including allowing the user group to select a previously-printed photo strip for the printing apparatus to reprint using the reprint options; and reprinting the selected previously-printed photo strip using the printing apparatus.

Further, at least in one embodiment, interacting between the photo booth and one or more user groups may include generating a unique alphanumeric string with the computing apparatus for each printed photo strip. Printing using the printing apparatus a photo strip may further include printing the unique alphanumeric string on the photo strip. Also, allowing the user group to select at least one previously-printed photo strip using the reprint options may include allowing the user group to input an alphanumeric string corresponding to at least one previously-printed photo strip to be reprinted using the printing apparatus. Further, in one or more embodiments, a user may use the unique alphanumeric string to retrieve a digital copy of the photo strip using one or more devices (e.g., a personal computer, a smart phone, an electronic organizer, etc.). Still further, in one or embodiments, a user may be able to enter their email address or telephone number using the input apparatus such that a digital copy of the photo strip may be emailed or sent to their email address or telephone number (e.g., using multimedia messaging service).

Still further, at least in one embodiment, allowing the user group to select at least one previously-printed photo strip using the reprint options includes: displaying on the display a plurality of previously-printed photo strips, and allowing the user group to select at least one of the plurality of previously-printed photo strips to be reprinted using the printing apparatus.

In another embodiment of a method of using a photo booth for one or more events, the method may include providing a configuration medium with event specific configuration information. The event specific configuration information may include configuration information about one event of the one or more events.

Further, the method may include providing a photo booth. The photo booth may define and user space and may include: computing apparatus, wherein the computing apparatus is configurable for one or more events; printing apparatus operably coupled to the computing apparatus; imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space; input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus, wherein the input apparatus may include an input interface for receiving the configuration medium; and output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus may include a display.

Still further, the method may include configuring the photo booth with the configuration medium. Configuring the photo booth with the configuration medium may include: interfacing the configuration medium with the input interface of the input apparatus of the photo booth; and transferring the event specific configuration information from the configuration medium to the computing apparatus of the photo booth.

Yet still further, the method may include interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups may include one or more users. Interacting between the photo booth and each user group of the one or more user groups may include: imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; and modifying the one or more images in accordance with the event specific configuration information. In one or more embodiments, the event specific configuration information may include photo strip layout, gutter layout, tone, one or more alphanumeric strings to be displayed on the display or printed on the photo strip, duration of operation for the photo booth, an audio message to be displayed on the display, a video message to be displayed on the display, and/or information to be displayed.

In another embodiment of a method of using a photo booth, the method may include providing a photo booth and configuring the photo booth with event specific configuration information. The event specific configuration information may, e.g., include a preset tone (e.g., color, black-and-white, sepia, etc.) for one or more images or sets of images. The method may further include interacting between the photo booth and one or more user groups. Interacting between the photo booth and each user group of the one or more user groups may include: displaying on the display one or more imaging options, wherein the one or more imaging options are operable to modify images imaged with the imaging apparatus using the computing apparatus, wherein the one or more imaging options include tone options; allowing the user group to select one or more imaging options from the imaging options using the input apparatus, wherein allowing the user group to select one or more imaging options includes allowing the user group to select a tone using the tone options; imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; modifying at least one image of the one or more images with the selected one or more imaging options using the computing apparatus, wherein modifying at least one image of the one or more images includes modifying at least one image of the one or more images with the selected tone using the computing apparatus; modifying at least one image of the one or more images with the preset tone using the computing apparatus; and printing using the printing apparatus a photo strip. The photo strip includes a first set of images and a second set of images. Each of the first set of images and the second set of images are based on the same one or more images imaged by the imaging apparatus. Further, the first set of images includes the one or more images modified by the computing apparatus with the preset tone, and the second set of images includes the one or more images modified by the computing apparatus with the selected tone.

In another embodiment of a method of using a photo booth, the method may include providing a photo booth and interacting between the photo booth and one or more user groups. Each user group of the one or more user groups may include one or more users. Interacting between the photo booth and

each user group of the one or more user groups may include: displaying on the display a preview image of the user space to be imaged by the imaging apparatus; displaying on the display one or more imaging options, wherein the imaging options define selectable options operable to modify images imaged with the imaging apparatus using the computing apparatus; allowing the user group to select an imaging option of the one or more imaging options using the input apparatus; displaying on the display the preview image modified by the selected imaging option; imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; modifying at least one image of the one or more images with the selected imaging option using the computing apparatus; and printing using the printing apparatus a photo strip including the at least one modified image of the one or more images. In one or more embodiments, the imaging options may include at least one of background options, foreground options, tone options, layout options, distortion options, and cutout options.

In another embodiment of a method of using a photo booth, the method may include providing a photo booth and interacting between the photo booth and one or more user groups. Interacting between the photo booth and each user group of the one or more user groups may include: displaying on the display one or more imaging options, wherein the one or more imaging options are operable to modify images imaged with the imaging apparatus using the computing apparatus, wherein the one or more imaging options include tone options; allowing the user group to select one or more imaging options from the imaging options using the input apparatus, wherein allowing the user group to select one or more imaging options includes allowing the user group to select a tone using the tone options; imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images using the computing apparatus; modifying at least one image of the one or more images with the selected one or more imaging options using the computing apparatus, wherein modifying at least one image of the one or more images includes modifying at least one image of the one or more images with the selected tone using the computing apparatus; and printing using the printing apparatus a photo strip. The photo strip includes a first set of images and a second set of images. Each of the first set of images and the second set of images are based on the same one or more images imaged by the imaging apparatus, and further, the second set of images includes the one or more images modified by the computing apparatus with the selected tone.

In another embodiment of a method of using a photo booth, the method may include providing a photo booth and providing one or more exterior display devices operably coupled to the computing apparatus of the photo booth. The one or more exterior display devices are capable of displaying images, wherein the images displayed by the one or more exterior display devices are viewable outside of the user space of the booth.

Further, the method may include interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups may include one or more users. Interacting between the photo booth and each user group of the one or more user groups may include: imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; transmitting at least one image of the one or more images to at least one exterior display device of the one or more exterior display devices; and displaying the one or more images with the at least one exterior display device of the one or more exterior display devices that received the at least one image of the one or more images.

In one embodiment of a photo booth according to the present invention, the photo booth may define a user space and may include: computing apparatus, wherein the computing apparatus is configurable for one or more events; printing apparatus operably coupled to the computing apparatus, wherein the printing apparatus is configured to print photo strips including one or more images; imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space; input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus; and output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus. The output apparatus may include at least one of a display, auditory output apparatus, visual output apparatus, olfactory output apparatus, and somatosensory output apparatus.

In another embodiment of a method of using a photo booth according to the present invention, the method may include providing a photo booth and interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups may include one or more users. Interacting between the photo booth and each user group of the one or more user groups may include: providing an imaging sequence and randomly departing from the imaging sequence to startle the user group. Providing an imaging sequence may include: displaying on the display user instructions (e.g., pre-imaging instructions, a countdown, and/or posing instructions) provided by the computing apparatus; outputting signaling auditory stimulation using the auditory output apparatus, wherein the signaling auditory stimulation signals to the user group when the imaging apparatus will be imaging the user space; and imaging the user space with the imaging apparatus to provide one or more images. Randomly departing from the imagining sequence may include at least one of: outputting startling auditory stimulation using auditory output apparatus; outputting startling visual stimulation using visual output apparatus; outputting startling olfactory stimulation using olfactory output apparatus; and outputting startling somatosensory stimulation using somatosensory output apparatus; and may further include imaging the user space with the imaging apparatus to provide one or more images when the user group is startled.

In another embodiment of a method of using a photo booth according to the present invention, the method may include providing a photo booth and interacting between the photo booth and one or more user groups. Interacting between the photo booth and the one or more groups may include: displaying on the display user instructions provided by the computing apparatus; imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images using the computing apparatus; and printing using the printing apparatus a photo strip. The user instructions that are displayed on the display may include posing instructions advising the user group how to be postured within the user space. For example, the posing instructions may include instructions directing the user group where to look, instructions directing the user group where to position their heads, instructions directing the user group where to position their bodies, etc.

In another embodiment of a method of using a photo booth according to the present invention, the method may include providing a photo booth and interacting between the photo booth and one or more user groups, wherein each user group

of the one or more user groups may include one or more users. Interacting between the photo booth and one or more user groups may include: generating one or more alphanumeric strings with the computing apparatus; imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; and printing using the printing apparatus a photo strip including at least one image of the one or more images and at least one alphanumeric string of the one or more alphanumeric strings. In one or more embodiments, generating the one or more alphanumeric strings with the computing apparatus may include generating a unique alphanumeric string with the computing apparatus for each user group of the one or more user groups, wherein the at least one alphanumeric string of the photo strip may include the unique alphanumeric string, and wherein the unique alphanumeric string is operable to be used as a raffle ticket.

Further, in one or more embodiments, generating the one or more alphanumeric strings with the computing apparatus may include generating a unique alphanumeric string with the computing apparatus for each user group of the one or more user, groups, wherein the at least one alphanumeric string of the photo strip may include the unique alphanumeric string, and wherein the unique alphanumeric string is operable for a user to use the unique alphanumeric string to reprint the photo strip having the unique alphanumeric string.

Still further, in one or more embodiments, generating the one or more alphanumeric strings may include generating a single alphanumeric string, wherein the single alphanumeric string is operable to be used as a password for accessing a website.

In another embodiment of a method of using a photo booth according to the present invention, the method may include providing a photo booth and interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups may include one or more users. Interacting between the photo booth and each user group of the one or more user groups may include: imaging the user space with the imaging apparatus to provide one or more images; storing the one or more images with the computing apparatus; and printing using the printing apparatus a photo strip comprising at least one image of the one or more images. The method may further include displaying on the display either a losing statement or a winning statement, wherein the winning statement is displayed less frequently than the losing statement.

The above summary of the present invention is not intended to describe each embodiment or every implementation of the present invention. Advantages, together with a more complete understanding of the invention, will become apparent and appreciated by referring to the following detailed description and claims taken in conjunction with the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1**A is a perspective view of an exemplary embodiment of a photo booth according to the present invention.

FIG. **1**B is another perspective view of the exemplary embodiment of the photo booth according to the present invention as shown in FIG. **1**A with the curtain removed.

FIG. **1**C is a side view of the exemplary embodiment of the photo booth according to the present invention as shown in FIG. **1**A.

FIG. **1**D is another side view of the exemplary embodiment of the photo booth according to the present invention as shown in FIG. **1**A with the curtain removed.

FIG. **1**E is a rear view of the exemplary embodiment of the photo booth according to the present invention as shown in FIG. **1**A.

FIG. **1**F is another rear view of the exemplary embodiment of the photo booth according to the present invention as shown in FIG. **1**A with the curtain removed.

FIG. **2** is a general block diagram of an exemplary embodiment of a photo booth according to the present invention.

FIG. **3** is a general block diagram of an exemplary embodiment of a photo booth system according to the present invention.

FIG. **4** is a general block diagram of another exemplary embodiment of a photo booth system according to the present invention.

FIG. **5** is a general block diagram of exemplary output apparatus of a photo booth as shown in FIG. **2**.

FIG. **6** is a general block diagram of an exemplary method of using a photo booth according to the present invention.

FIG. **7** is a detailed block diagram of an exemplary method of interacting between a photo booth and one or more users groups as generally illustrated in the method of FIG. **6**.

FIG. **8** is a detailed block diagram of another exemplary method of using a photo booth according to the present invention as generally illustrated in the method of FIG. **6**.

FIG. **9** is a detailed block diagram of another exemplary method of interacting between a photo booth and one or more users groups as generally illustrated in the method of FIG. **6**.

FIG. **10** is a detailed block diagram of another exemplary method of interacting between a photo booth and one or more users groups as generally illustrated in the method of FIG. **6**.

FIG. **11** is a detailed block diagram of another exemplary method of interacting between a photo booth and one or more users groups as generally illustrated in the method of FIG. **6**.

FIG. **12** is a detailed block diagram of another exemplary method of using a photo booth according to the present invention.

FIG. **13** is a detailed block diagram of another exemplary method of interacting between a photo booth and one or more users groups as generally illustrated in the method of FIG. **6**.

FIG. **14** is a detailed block diagram of another exemplary method of interacting between a photo booth and one or more users groups as generally illustrated in the method of FIG. **6**.

FIG. **15** is a general block diagram of another exemplary method of using a photo booth according to the present invention.

FIGS. **16**A-I depict exemplary screen displays of a photo booth executing a method according to the present invention, e.g., the method generally illustrated in FIG. **7**.

FIGS. **17**A-C depict exemplary screen displays of a photo booth executing another method according to the present invention, e.g., the method generally illustrated in FIG. **8**.

FIG. **18**A depicts an exemplary photo strip generated by photo booth systems and/or methods of using photo booth systems according to the present invention, e.g., the method generally illustrated in FIG. **8**.

FIG. **18**B depicts an exemplary event report card generated by photo booth systems and/or methods of using photo booth systems according to the present invention, e.g., the method generally illustrated in FIG. **8**.

FIGS. **19**A-F depict exemplary screen displays of a photo booth executing another method according to the present invention, e.g., the methods generally illustrated in FIGS. **9-10**.

FIG. **20** depicts another exemplary photo strip generated by photo booth systems and/or methods according to the present invention, e.g., the methods generally illustrated in FIGS. **9-10**.

FIGS. **21**A-B depict exemplary screen displays of a photo booth executing another method according to the present invention, e.g., the methods generally illustrated in FIG. **11**.

## DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

In the following detailed description of illustrative embodiments of the invention, reference is made to the accompanying figures of the drawing which form a part hereof, and in which are shown, by way of illustration, specific embodiments in which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural changes may be made without departing from the scope of the present invention. Unless stated otherwise herein, the figures of the drawing are rendered primarily for clarity and thus may not be drawn to scale.

As used herein, "a," "an," "the," "at least one," and "one or more" are used interchangeably. The term "and/or" (if used) means one or all of the listed elements or a combination of any two or more of the listed elements.

One or more exemplary embodiments of a photo booth **10** according to the present invention are shown in FIGS. **1**A-**1**F. The photo booth **10** may include a floor **12**, a lower front portion **20**, an upper front portion **30**, a bench **16**, and curtains **36**, **46**, **56**. FIGS. **1**B, **1**D, and **1**F illustrate the photo booth **10** without any of the curtains **36**, **46**, and **56** to show the inside of the booth.

The front lower portion **20** of the photo booth **10** may include a shelf **22**, a handle **24**, a photo slot **26**, and wheels **28**. The shelf **22** may be used, e.g., as a tabletop for a photo strip album or guest book. The handle **24** and the wheels **28** may assist a user in transporting the booth. For example, a user may tilt the booth forward on the wheels **28** by leveraging the handle **24**.

Generally, the photo booth **10** allows one or more user groups to enter the user space **50** (as shown, e.g., in FIG. **1**B) to be imaged by the photo booth **10**.

As described herein, a "user group" may be defined as one or more users. Generally, a user of the one or more users is a human. However, a user may be an animal, plant, and/or any other object that may be imaged by the imaging apparatus of the photo booth.

Also, as described herein, "user space" may be defined as any space included within the picture plane of the imaging apparatus of the photo booth.

The photo booth **10** may print the images on a photo strip (e.g., a photo strip as shown in FIG. **18**A) and drop the photo strip into the slot **26**. The slot **26** as depicted includes a center post that may stop of the photo strip from falling out of the slot **26**.

The floor **12** may include a bevel **14** to, e.g., assist in preventing a user from tripping upon entering the user space **50** of the photo booth **10**. The floor **14** may be connected to the bench **16**. One or more users may sit on the bench **16** upon entering the user space **50** of the photo booth **10**. The bench **16** may include hand rails **44** on either side of the photo booth **10**.

Two upright posts **48** may extend between the bench **16** and the top **33** of the photo booth **10**. Curtain rods **38**, **40**, and **42** may extend around the top **33** of the photo booth **10** and may hold the curtains **36**, **46**, and **56** around the photo booth **10**. As depicted, the curtain rods **38**, **40**, and **42** utilize rings to the secure the curtains **36**, **46**, and **56** as shown in FIG. **1**A.

The rear portion of the photo booth **10** may be "open" as shown in FIG. **1**B. The rear portion may only be covered by a rear curtain such that one or more users may stand behind the "open" rear portion on the inside of the rear curtain **46** and still be within the user space to, e.g., be imaged by imaging apparatus of the photo booth **10**.

The rear curtain rod **40** may be located at the rearmost portion of the photo booth **10** such that the rear curtain **46** hangs behind the back **17** of the bench **16** instead of in front of the back **17** of the bench **16**. Having the rear curtain **46** hang behind the bench **16** may be desired to, e.g., facilitate users getting in and out of the booth, facilitate users entering the open rear portion, allow more users in the picture plane, preventing users from sitting on the curtain, and/or allowing users to have a curtain backdrop or no backdrop.

The photo booth **10** may include a sign **34**. The sign **34** may display a company name, a party name, a customized message, notifications, and/or images.

The rear view of the photo booth **10** depicted FIG. **1**F illustrates an imaging aperture **52** and a display **54**. The imaging aperture **52** may be an opening within the front upper portion **30** of the photo booth **10** that allows imaging apparatus to image the user space **50** through the imaging aperture **52**. The imaging aperture **52** may include translucent material, such as, e.g., glass or plastic, such that light may be transmitted from the user space **50** to the imaging apparatus that may be located within the front upper portion **30** of the photo booth **10** (e.g., the imaging apparatus may be isolated from the user space such that a user may not be able to directly interact with the imaging apparatus).

The display **54** may any device capable of visually transmitting information to a user in the user space **50**. For example, the display **52** may be a liquid crystal display, a cathode ray tube, plasma display, projection display, an array of light emitting diodes, etc. Further, in this embodiment, the display **52** may also be a touch screen display by which a user may, e.g., initiate an imaging sequence or input information into the photo booth.

A general block diagram of one or more exemplary embodiments of a photo booth **202** according to the present invention is shown in FIG. **2**. The photo booth **202** may include booth structure **204**, computing apparatus **206**, printing apparatus **208**, imaging apparatus **210**, input apparatus **212**, and output apparatus **214**.

The booth structure **204** may include the physical portions of the photo booth **202**. For example, the booth structure **204** may include the walls, floor, wheels, curtains, curtain rods, etc. The booth structure **204** may be formed of wood, metal, plastic, and/or any other material as would be known by one skilled in the art.

The computing apparatus **206** may include one or more computing devices capable of processing data. The computing apparatus **206** may include, e.g., microprocessors, data storage (e.g., volatile or non-volatile memory and/or storage elements), input devices, output devices, etc. The computing apparatus **206** may be programmed to implement the methods or portions of the methods described herein and may be operably coupled to the printing apparatus **208**, the imaging apparatus **210**, the input apparatus **212**, and/or the output apparatus **214**.

As described herein, "operably coupled" may be defined as connected (e.g., wired or wirelessly) such that information (e.g., image data, commands, etc.) may be transmitted between each object.

The methods described herein may be implemented by program code and/or logic. Program code and/or logic described herein may be applied to input data to perform functionality described herein and generate desired output information. The output information may be applied as input to one or more other devices and/or processes as described herein or as would be applied in a known fashion.

The program code and/or logic used to implement the present invention may be provided using any programmable language, e.g., a high level procedural and/or object orientated programming language that is suitable for communicating with computing apparatus. Any such program code and/or logic may, for example, be stored on any suitable device, e.g., a storage media, readable by a general or special purpose program, computer or a processor apparatus for configuring and operating the computer when the suitable device is read for performing the procedures described herein. In other words, at least in one embodiment, the computing apparatus **206** may be implemented using a computer readable storage medium, configured with a computer program, where the storage medium so configured causes the computing apparatus **206** to operate in a specific and predefined manner to perform functions described herein.

At least in one embodiment, the computing apparatus **206** may be, for example, any fixed or mobile computer system (e.g., a personal computer or mini computer). The exact configuration of the computing apparatus **206** is not limiting and essentially any device capable of providing suitable computing capabilities may be used according to the present invention.

In view of the above, it will be readily apparent that the functionality as described in one or more embodiments according to the present invention may be implemented in any manner as would be known to one skilled in the art. As such, the computer language, the computing apparatus, or any other software/hardware which is to be used to implement the present invention shall not be limiting on the scope of the processes or programs (e.g., the functionality provided by such processes or programs) described herein.

The printing apparatus **208** may be any device capable of printing images. For example, the printing apparatus **208** may be a laser printer, ink jet printer, dye sublimation printer, dot matrix printer, three-dimensional printer, collating machine, and/or binding machine. The printing apparatus **208** may be operably coupled to the computing apparatus **206** such that the printing apparatus **208** may, e.g., receive commands from the computing apparatus **206**, receive data (e.g., imaging data) from the computing apparatus **206**, etc.

The imaging apparatus **210** may be any device capable of imaging the user space of the photo booth **202**. For example, the imaging apparatus may include one or more image capturing devices, e.g., digital cameras and/or digital video cameras. The imaging apparatus **210** may also include illumination apparatus, such as, e.g., light boxes, flashes, cone lights, light-emitting diodes, incandescent lights, florescent lights, and/or halogen lights. Also, the imaging apparatus **210** may be operably coupled to the computing apparatus **206** such that the computing apparatus **206** may, e.g., send commands to the imaging apparatus **210** and/or receive data (e.g., imaging data) from the imaging apparatus **210**.

The input apparatus **212** may be any device capable of receiving input from a user group. For example, the input apparatus **212** may include buttons, switches, touch screens, microphones, joysticks, track balls, keyboards, mice, disk drives (e.g., hard disk drives, CD-ROM drives, DVD drives, floppy disk drives), data ports (e.g., universal serial bus ports or serial ports), scanners, and/or bar code scanners. The input apparatus **212** may be operably coupled to the computing apparatus **206** such that the computing apparatus **206** may, e.g., receive commands from the input apparatus **212** and/or receive data from the input apparatus **212**.

The output apparatus **214** may be any device capable of transmitting information to a user group. The output apparatus **214** may be operably coupled to the computing apparatus **206** such that the computing apparatus **206** may, e.g., utilize the output apparatus **214** to transmit information to a user group. Various examples of output apparatus **214** are described herein with respect to FIG. **5**.

A general block diagram of one or more exemplary embodiments of a photo booth system **220** according to the present invention is shown in FIG. **3**. The photo booth system **220** may include a photo booth **222** and a configuration medium **236**.

The photo booth **222** may be similar to the photo booth **202** described herein with reference to FIG. **2**. For example, booth structure **224**, computing apparatus **226**, printing apparatus **228**, imaging apparatus **230**, input apparatus **232**, and output apparatus **234** may be substantially similar to the booth structure **204**, computing apparatus **206**, printing apparatus **208**, imaging apparatus **210**, input apparatus **212**, and output apparatus **214**. As such, for simplicity, further description on the details of photo booth **222** shall not be provided.

The configuration medium **236** may be any device capable of carrying data and operably couplable to the input apparatus **232** to transmit information from the configuration medium **236** to the computing apparatus **226** of the photo booth **222**. For example, the configuration medium **236** may include universal serial bus storage (USB) device (e.g., a "memory key"), a CD-ROM, a DVD, a floppy disk, etc. At least in one embodiment, the configuration medium **236** may include a laptop computer that may be interfaced with the computing apparatus **226** of the photo booth **222**.

One or more exemplary methods of using a photo booth system that includes a configuration medium are described in further detail herein with reference to FIG. **15**.

A general block diagram of one or more exemplary embodiments of a photo booth system **240** according to the present invention is shown in FIG. **4**. The photo booth system **240** may include a photo booth **242** and two or more exterior display devices **256**.

The photo booth **242** may be similar to the photo booth **202** described herein with reference to FIG. **2**. For example, booth structure **244**, computing apparatus **246**, printing apparatus **248**, imaging apparatus **250**, input apparatus **252**, and output apparatus **254** may be substantially similar to the booth structure **204**, computing apparatus **206**, printing apparatus **208**, imaging apparatus **210**, input apparatus **212**, and output apparatus **214**. As such, for simplicity, further description on the details of photo booth **242** shall not be provided.

The exterior display devices **256** may be any display device capable of displaying information outside of the user space of the photo booth **242** and operably couplable to the computing apparatus **246** of the photo booth **242** to receive information (e.g., imaging data) from the computer apparatus **246**. For example, the exterior display devices **256** may include liquid crystal displays, cathode ray tubes, plasma displays, projection displays, projectors, arrays of light emitting diodes, etc.

One or more exemplary methods of using a photo booth system that includes exterior display devices are described in further detail herein with reference to FIG. **12**.

A general block diagram of one or more exemplary embodiments of output apparatus **264** of a photo booth according to the present invention is shown in FIG. **5**. The output apparatus **264** may include, e.g., a display **266**, visual output apparatus **268**, auditory output apparatus **270**, olfactory output apparatus **272**, somatosensory output apparatus **274**, and any other output apparatus as would be known by one having ordinary skill in the art.

The display **266** may be any device capable of visually transmitting information to a user in the user space. For example, the display **266** may be a liquid crystal display, a

cathode ray tube, plasma display, projection display, an array of light emitting diodes, etc. Further, in at least one embodiment, the display **266** is also a touch screen display (which may operate as an input apparatus) by which a user may, e.g., initiate an imaging sequence or input information into the photo booth.

The visual output apparatus **268** may be any device that may output visual stimulus to a user group. For example, the visual output apparatus **268** may be one or more incandescent lights, liquid crystal displays, cathode ray tubes, plasma displays, projection displays, and/or arrays of light emitting diodes. In at least one embodiment, the visual output apparatus **268** may be utilized to provide a "flash" in the user space of the photo booth to illuminate the user group during imaging. In at least another embodiment, the visual output apparatus **268** may be utilized to startle a user group with, e.g., bright, bizarre lights.

The auditory output apparatus **270** may be any device that may output auditory stimulus to a user group. For example, the auditory output apparatus **270** may be one or more speakers, horns, drums, whistles, and/or cymbals. In at least one embodiment, the auditory output apparatus **270** may be utilized to signal to the user group that the photo booth will be imaging the user space. In at least another embodiment, the auditory output apparatus **270** may be utilized to startle a user group with, e.g., loud, obnoxious sounds.

The olfactory output apparatus **272** may be any device that may output olfactory stimulus to a user group. For example, the olfactory output apparatus **272** may be stink bombs, foul-smelling sprays, and/or potpourri sprays. In at least one embodiment, the olfactory output apparatus **272** may be utilized to startle a user group with, e.g., disgusting, repulsive smells.

The somatosensory output apparatus **274** may be any device that may output somatosensory stimulus to a user group. As described herein, somatosensory stimulus may be defined as sensations perceived by the skin and/or internal organs of a user. For example, the somatosensory output apparatus **274** may include vibration generators, gas sprays, liquid sprays, feathers, fur and/or air (e.g., hot or cold air). In at least one embodiment, the somatosensory output apparatus **274** may be utilized to startle a user group by, e.g., unexpected vibrations of the photo booth.

A general block diagram of one or more exemplary methods **300** of using a photo booth according to the present invention is shown in FIG. **6**. The method **300** may include providing a photo booth (block **310**) such as those described herein and interaction between the photo booth and one or more user groups (block **320**).

The photo booth provided in block **310** may be similar to the photo booth **202** described herein with reference to FIG. **2**. As such, for simplicity, further description on the details of providing a photo booth shall not be provided.

Interacting between the photo booth and one or more user groups (block **320**) may include a plurality of different interactions. Many of the different interactions are further described herein with reference to FIGS. **7-11** and **13**. For example, interactions between the photo booth and one or more user groups may include a picture taking process, a picture manipulating process and/or a quiz game.

A detailed block diagram of one or more exemplary methods **420** of interacting between a photo booth and one or more users groups is illustrated in FIG. **7**. The method **420** may include displaying user instructions (block **422**). The user instructions may be either static or dynamic.

Static user instructions (i.e., instructions that do not change) may be fixed on the photo booth proximate the user space of the photo booth to, e.g., notify a user group of the operation of the photo booth. For example, in at least one embodiment, a button on the inside of the photo booth may initiate the imaging sequence. Static user instructions, such as, "Press the Big Red Button to Start" may be printed/painted on the photo booth proximate the button such that a user group would be able to read the user instructions and understand how to start the imaging sequence or "Look Here" may be printed/painted on the photo booth proximate the imaging aperture.

Dynamic user instructions (i.e., instructions that may change) may be shown on a display proximate the user space of the photo booth. A computer apparatus may send different user instructions to the display depending on what methods the photo booth is executing. For example, in at least one embodiment of a general imaging method, a display of the photo booth may show a countdown ("5 . . . 4 . . . 3 . . . 2 . . . 1 . . . Go!") that signals to the user group when the user space is about to be imaged.

Further, user instructions may be inputted by an administrator and may be any user instructions the administrator desires. For example, the user instructions may include "Look Up," "Look at the Camera," "Smile," "Processing . . . Please Wait a Moment," a legal disclaimer regarding copyright/online publication, "Lean Back," Heads Together," etc.

User instructions are not, e.g., limited to textual instructions. Use instructions may include spoken commands, various sounds, various visual output, somatosensory output, olfactory output, etc. For example, user instructions may include the spoken command "Look Up!"

Some user instructions, as described herein, may include posing instructions for the user group located within the user space of the photo booth, e.g., the posing instructions may advise the user group how to be postured (e.g., the arrangement of a user's body, limbs, facial features, etc.) within the user space (e.g., such that every user in the user group may be located within the image, such that the user group is posed in a particular fashion for comedic effect, such that every user is looking at the camera, etc.). Posing instructions may include instructions directing the user group where to look (e.g., "Look Up!" "Look at the Camera," etc.), instructions directing the user group where to position their heads (e.g., "Heads Together," etc.), instructions directing the user group where to position their bodies (e.g., "Lean Back," etc.), and/or instructions directing the user group to compose certain expressions (e.g., "Smile," "Frown," "Look Surprised," "Look Scared," "Look Evil," etc.).

One or more exemplary embodiments of displaying dynamic user instructions (block **422**) are depicted in the screen displays of FIGS. **16**A-I, which may depict an exemplary imaging sequence. The imaging sequence for capturing a first image of the user space may begin in FIG. **16**A and end in FIG. **16**G. The imaging sequence may then start over again in screen display **1608** as shown in FIG. **16**H, which is similar to the screen display **1600** of FIG. **16**A. The imaging sequence may loop two or more times to provide two or more images (e.g., FIGS. **16**A-G). After done looping, the method may finish with screen display **1609** of FIG. **16**I.

The screen display **1600** of FIG. **16**A shows the following user instructions: "Legal Disclaimer Allowing Images to Be Hosted Online" **1612** and "Push Here" **1614**. The "Legal Disclaimer" **1612** may instruct the user group of, e.g., legalities concerning copyright and online publication. "Push Here" **1614** may instruct the user group to simply "Push Here" to start the imaging sequence.

The screen displays of FIGS. **16**B-F display the following user instruction: a countdown timer **1615**. The countdown

timer **1615** counts 5 . . . 4 . . . 3 . . . 2 . . . 1 (as shown in FIGS. **16**B-F) before the photo booth images the user space. Further, each screen display of FIGS. **16**B-F shows additional user instructions **1618**. For example, screen display **1601** of FIG. **16**B shows the user instruction **1618** "Lean Back." Further, for example, screen display **1603** of FIG. **16**C shows the user instruction **1618** "Heads Together." Still further, for example, the screen displays **1604**, **1605**, and **1606** of FIGS. **16**D-F show the user instruction **1618** "Look at Camera" with arrows pointing upwardly towards the imaging aperture.

In one or more embodiments, the user instructions may include a question regarding how many users are in the user group. For example, the user instruction "What type of group are you?" may be displayed with the following selectable options (e.g., selectable using the input apparatus): "Single Sitter," "Couple," "Big Group," etc. Different sized groups may change certain parameters for the imaging of the user space by the imaging apparatus. For example, the zoom settings and/or focus settings of the imaging apparatus may be adjusted depending on what group is selected.

The method **420** may further include displaying a preview image of the user space to be imaged (block **424**). The preview image of the user space to be imaged may be shown on the display, e.g., display **54** of FIG. **1**F. The preview image may be a digital image updated, e.g., five times a second. At least in one embodiment, the preview image may be real-time video of the user space of the photo booth. Further, at least in one embodiment, the preview image may be video from a secondary camera of the imaging apparatus.

One or more exemplary embodiments of displaying a preview image of the user space to be imaged (block **424**) are depicted in the screen displays of FIGS. **16**A-H. Generally, the preview image may be displayed before the user space is imaged by the imaging apparatus and may be faded and/or disappears entirely before the use space is imaged by the imaging apparatus. The fading and/or disappearance may indicate to the user group to stop looking at the preview image and to look directly at the camera. For instance, the preview image **1616** in the screen displays of FIGS. **16**A-H shows a preview image of the user space to be imaged. Note that the preview image **1616** of screen display **1605** of FIG. **16**E is dotted, which indicates that the preview image has begun to fade. In screen display **1606** of FIG. **16**F, the preview image **1616** has faded almost completely or has disappeared, which may indicate that the user space is about to be imaged. The blank preview image may prompt the user group to "look up" at the camera instead looking at the preview image. Further, the blank preview image adds to the suspense and/or surprise of the user group upon reviewing the images of the photo strip because the user group was not able to the preview image immediately before the images were taken.

The method **420** may further include outputting auditory stimulation indicative of the imminence of imaging (block **426**). The auditory stimulation may be any sound that would indicate to a user that the user space is about to be imaged, or is being imaged. In essence, this auditory stimulation may be a "countdown" sound. For example, at least in one embodiment, the auditory stimulation may include a sound increasing in pitch and a "popping" sound. Further for example, at least in another embodiment, the auditory stimulation may include a voice counting down "5 . . . 4 . . . 3 . . . 2 . . . 1." Still further for example, at least in another embodiment, the auditory stimulation may include "Put your heads together, look at the camera and smile." For example, with reference to FIGS. **16**A-I, the auditory stimulation may start at a low pitch in FIG. **16**A and increase to a high pitch by FIG. **16**F.

The method **420** may further include imaging the user space with imaging apparatus to provide one or more images (block **428**). Each image of the one or more images may be taken one-at-a-time or all the images may be taken in succession. In at least one embodiment, each image is taken after user instructions and a countdown displayed on the display such that the user group is ready for each picture. Generally, the photo booth may take three images for each user group. The three images may be printed twice on the same photo strip as shown in photo strip **1800** of FIG. **18**A.

In other words, the photo strip may contain two or more sets of images, e.g., a first set of images and a second set of images. Each of the sets of images, however, may not be identical. For example, as described herein, one or more of the sets of images may be modified using user-group selectable or preset imaging options (e.g., tone). In this example, each set of images printed on the photo strip is based on the same one or more images imaged by the imaging apparatus but, e.g., one set of images may be modified while another set of images may not be modified. As described herein, a set of images that is "based on" one or more images means that the set of images originated from the one or more images. As such, if a first set of images and a second set of images are based on the same one or more images imaged by the imaging device, the first set of images and the second set of images originated from the same one or more images imaged by the imaging device.

For example, after screen display **1606** of FIG. **16**F is displayed, the imaging apparatus may image the user space of the photo booth (block **428**). Screen display **1607** may be shown after an image has been taken and may include a blank preview image **1616** and an "X" through one of the image status indicators **1610** signifying that one image of the three possible images has been taken. At least in one embodiment, instead of an "X," each of the image status indicators **1610** may display the actual image taken or, in the alternative, a graphic other than an "X" indicating that an image has been taken.

Screen display **1608** of FIG. **16**H is similar to the screen display **1601** of FIG. **16**B except that one of the image status indicators **1610** is marked with an "X." As shown, the countdown is starting once again for a second image to be taken. The second image imaging sequence may be substantially similar to the imaging sequence as shown in FIGS. **16**B-G. As such, for simplicity, further description on the details of the second image imaging sequence shall not be provided.

When the imaging sequences are finished (e.g., three imaging sequences), the screen display **1609** may show a processing instruction **1622** as shown in FIG. **16**I. Other instructions may be provided on screen display **1609** to instruct the users to, e.g., wait for the photo strip to print, leave the booth, imaging status, reprint order confirmation, etc.

After the one or more images are taken, the one or more images may be stored (block **420**) by the computing apparatus of the photo booth. The one or more images may be stored in the computing apparatus temporarily (e.g., until the images are printed) or longer (e.g., until the images can be uploaded to a website). Further one or more of the images may be modified (e.g., with text and/or speech bubble, etc.) in the same manner by the computing apparatus as described herein.

As described herein, when an object (e.g., an image, an answer, or an alphanumeric string) is "stored," the object may be stored using the computing apparatus within a data storage device.

The computing apparatus may then send the one or more images to the printing apparatus to print a photo strip includ-

ing at least one image of the one or more images (block **432**). Exemplary photo strips are described herein with reference to FIGS. **18**A and **20**.

A detailed block diagram of another exemplary method **500** of using a photo booth according to the present invention is shown in FIG. **8**. Generally, this method **500** executes a "quiz game" within the photo booth and analyzes the answers to, e.g., generate results of the "quiz game." The method **500** may include providing a photo booth **510**. The photo booth provided in block **510** may be similar to the photo booth **202** described herein with reference to FIG. **2**. As such, for simplicity, further description on the details of providing a photo booth shall not be provided.

Further, the method **500** may include interaction between the photo booth and one or more user groups (block **520**). This interaction step (block **520**) may include displaying a question (block **522**), displaying two or more answers corresponding to the displayed question (block **524**), allowing a user to select the one or more answers of the two or more answers (block **526**), and storing the selected answers (block **528**).

The questions displayed may be subjective questions (e.g., questions that may not have a correct answer) or objective questions (e.g., questions that may have one or more correct answers). An example of a subjective question may be the following: "Who is more likely to overdraw their checking account?" An example of an objective question may be the following: "Where did Jack and Jill Meet?"

The questions may be questions associated to an event at which the photo booth is being used. For example, the questions may be about the bride and groom of a wedding, the history of a company, etc.

Although the method **500** is described as only displaying one question and two or more answers corresponding to the displayed question, the methods described herein may ask multiple questions with corresponding answers together or on the same display in succession, between photos, before photos, and/or after photos. Further, at least in one embodiment, each group of the one or more user group may get one question drawn at random from a finite number of questions.

At least in one embodiment, the questions and answers may be provided in event specific configuration information that may be provided by the methods and/or systems described herein. Further, at least in another embodiment, the questions and answers may be input by an administrator before an event.

One or more exemplary embodiments of the steps of displaying a question (block **522**) and displaying two or more answers (block **524**) may be shown on the touch screen display **1700** of FIG. **17**A. The touch screen display **1700** shows a question **1702** (i.e., "Where did Jack and Jill Meet?") and three answers **1704** (i.e., "Blind Date," "Amy's Wedding," or "The Country Bar"). The photo booth may allow a user to select one or more answers of the two or more answers (block **526**) by allowing a user to touch the touch screen buttons surrounding the answers **1704**.

Another exemplary embodiment of the steps of displaying a question (block **522**) and displaying two or more answers (block **524**) may be shown on the touch screen display **1710** of FIG. **17**B. The touch screen display **1710** includes a question **1712** (i.e., "Who is more likely to overdraw their checking account?") and two answers **1714** (i.e., "Jack," or "Jill)." The photo booth may allow a user to select one or more answers of the two or more answers (block **526**) by allowing a user to touch the touch screen buttons surrounding the answers **1714**.

Once a user group selects an answer (e.g., "Jill" from FIG. **17**B), the computing apparatus of the photo booth may store the selected answer (block **528**). The method **500** may optionally display and/or print the question and the correct and/or selected answer(s) (block **534**) with the display and/or printing apparatus, respectively.

One or more exemplary embodiments of the question and correct answer being displayed (block **534**) may be shown on the touch screen display **1720** of FIG. **17**C. Touch screen display **1720** of FIG. **17**C is similar to the screen display depicted in FIG. **16**I, which is displayed after a user group has finished an imaging sequence. However, the screen display **1720** of the FIG. **17**C shows the question along with the selected answer **1732**. In other embodiments, instead of showing the selected answer, the screen display may show the correct answer to the corresponding question so that the user group is informed of the correct answer before they leave the photo booth. In other embodiments, partial results may be displayed on the display instead of the question and answer such as, "64% of user groups so far have answered The Country Bar, which is INCORRECT!!!" or "64% answered The Country Bar, 25% answered Blind Date, 11% answered Amy's Wedding. The Correct Answer is Blind Date." Alternatively, the partial results may include a listing of the answers with thumbnail pictures (e.g., images from the imaging sequence) of the users who gave a particular answer to the question.

Further, one or more exemplary embodiments of the question and selected answer being printed (block **534**) may be shown on the photo strip **1800** of FIG. **18**A. The photo strip **1800** may include two sets of images **1802**, the question and selected answer **1804**, a logo **1806**, and an event password **1808**. In other embodiments, instead of printing the selected answer, the correct answer to the corresponding question may be printed so that the user group is informed of the correct answer upon reading the photo strip.

The selected answers may be analyzed with computing apparatus to provide results (block **530**). At least in one embodiment, the selected answers may be analyzed after each user group has completed an imaging sequence or has completed answering each question. At least in another embodiment, the selected answers may be analyzed after the event is over. The analysis of the answers provides results that may be optionally displayed and/or printed (block **532**) with the display and/or printing apparatus, respectively.

The analysis may include calculating the percentage of user groups that selected each particular answer. In other embodiments, the analysis may include generating graphical depictions of the results (e.g., charts and/or graphs).

One or more exemplary embodiments of the results being printed (block **532**) are shown on the event report card **1850** of FIG. **18**B. Generally, the even report card **1850** may be printed towards the end of an event so that an announcer (e.g., a disc jockey) may report the results to the people attending the event. For example, the event report card **1850** reports that when asked "Where did Jack and Jill Meet?" 64% of the user groups selected "The Country Bar," 11% of the user groups selected "Amy's Wedding," and 25% of the user groups correctly selected "Blind Date." As shown, the event report card **1850** may include a graphical representation of the results (e.g., a pie graph). The event report card **1850** may further include thumbnail pictures of users who selected particular answers.

In other embodiments, the results may be displayed on the display of the photo booth or an exterior display device of a photo booth system. For example, an exterior display device may show questions and their corresponding answers including the percentages of user groups that have selected each answer.

At least in one embodiment, instead of selecting an answer from two or more displayed answers, the photo booth may provide a method by which a user group may input with the input apparatus (e.g., a keyboard or keyboard displayed on the touch screen) a specific alphanumeric answer to the question. For example, when asked "Where did Jack and Jill Meet?" the user group may opt to "write in" their own answer using a touch screen keyboard (e.g., the user group may enter. "In a Brothel"). Such specific alphanumeric answers (e.g., with thumbnail images of the users who answered them) may be printed on an event report card (e.g., event report card **1850** of FIG. **18**B) and/or analysis may be performed on the answers.

A detailed block diagram of another exemplary method **620** of interacting between a photo booth and one or more users groups is shown in FIG. **9**. This method **620** allows a user group to provide an alphanumeric message on their photo strip. The alphanumeric message may be picked entirely by the user group or, in the alternative, the user group may select a few alphanumeric strings (e.g., words) and the computing apparatus may generate the final alphanumeric string (e.g., a phrase) based on the selected alphanumeric strings. Further, this process may be customized by an administrator to include personalize alphanumeric strings (e.g., names, places, events, favorite things, and/or inside jokes).

The method **620** may include allowing a user to input one or more alphanumeric strings (block **630**). The user may input one or more alphanumeric strings using input apparatus of the photo booth such as, e.g., a keyboard or a touch screen. Further, in other embodiments, a list of words (e.g., 50 or more words) may be displayed on the display and a user may select one or more words using the input apparatus.

After the user has input one or more alphanumeric strings (block **630**), the method **620** may generate a final alphanumeric string based on the one or more alphanumeric stings (block **640**) using the computing apparatus. At least in one embodiment, generating the final alphanumeric string (block **640**) may include transforming the alphanumeric string into a graphical representation that may be printed on the photo strip (e.g., on or beside at least one of the images of the photo strip). For example, the computing apparatus may generate "balloon" letters from the inputted one or more alphanumeric string.

In other embodiments, the computing apparatus may generate additional alphanumeric strings that may be added to the inputted one or more alphanumeric strings. For example, the user group may enter "Having a fun time" and the computing apparatus may add "at the Wiegratz Bar Mitzvah!" to generate the final alphanumeric string of "Having a fun time at the Wiegratz Bar Mitzvah!"

The method **620** may further include imaging the user space to provide one or more images (block **650**), storing the one or more images (block **660**), and printing a photo strip including at least one image of the one or more images and the final alphanumeric string (block **670**).

A detailed block diagram of another exemplary method **720** of interacting between a photo booth and one or more users groups is shown in FIG. **10**. The method **720** may include allowing a user to input one or more alphanumeric strings (block **730**) and generating a final alphanumeric string based on the one or more alphanumeric strings (block **740**).

Allowing a user to input one or more alphanumeric strings (block **720**) may include allowing a user to select a first alphanumeric string (block **732**) provided by the computing apparatus and allowing a user to select an Nth alphanumeric string (block **734**) provided by the computing apparatus. The ellipsis between the blocks **732** and **734** signifies that the method may include two or more alphanumeric string selection steps, which may be pre-determined by an administrator configuring the photo booth.

One or more exemplary embodiments of the steps of allowing a user to input one or more alphanumeric strings (block **730**) may be shown on the touch screens of FIG. **19**A-E. The touch screen display **1910** displays the instructions "Select a Noun" and four nouns **1912**, namely "The Smiths," "The Johnsons," "I," and "We." The photo booth may allow a user group to select one of the four nouns by touching the touch screen button corresponding to the noun (e.g., "We").

The touch screens **1910**, **1920**, **1930**, **1940**, and **1950** may further include a preview image **1902** of the user space to be imaged, a blank speech bubble **1904**, and a speech bubble location manipulator **1906**. The blank speech bubble **1904** may be a semi-opaque or opaque graphic of a speech bubble overlaying the preview image. The final alphanumeric string that is generated using the methods described herein may be printed within the speech bubble when the images are printed on a photo strip. Further, in at least one embodiment, one or more of the selected alphanumeric strings or the final alphanumeric string, once created, may appear in the speech bubble **1904** within the preview image **1902**. However, in the embodiment depicted in FIGS. **19**A-E, the speech bubble **1904** is blank so that the user group may be surprised by the alphanumeric strings appearing within the speech bubbles upon receiving the photo strip.

The speech bubble location manipulator **1906** may consist of three touch screen buttons that include graphical representations of different locations of the speech bubble within the preview image. A user may touch the touch screen buttons of the speech bubble location manipulator **1906** to move the speech bubble around within the preview image (and subsequently, within the images printed on the photo strip). In other embodiments, a user may be able to use the touch screen display in different ways to manipulate the location of the speech bubble. For example, a user may touch the preview image (or the speech bubble within the preview image) to move the speech bubble around the preview image (e.g., the user may "touch" and "drag" the speech bubble). Further, for example, the touch screen display may have arrows that a user may touch to move the speech bubble around.

Also, in other embodiments, a user may use other input apparatus to manipulate the location of the speech bubble. For example, a user may press buttons on the photo booth to move the speech bubble. Further, for example, a user may use a trackball on the photo booth to move the speech bubble.

The touch screen display **1920** of FIG. **19**B displays the instructions "Select a Name" and two names **1922**, namely "Jack" and "Jill." The photo booth may allow a user group to select one of the two names by touching the touch screen button corresponding to a name (e.g., "Jack").

The touch screen display **1930** of FIG. **19**C displays the instructions "Select a Place" and eight places **1932**. The photo booth may allow a user group to select one of the eight places by touching the touch screen button corresponding to a place (e.g., "a mental hospital").

The touch screen display **1940** of FIG. **19**D displays the instructions "Select an article of clothing" and eight articles of clothing **1942**. The photo booth may allow a user group to select one of the eight articles by touching the touch screen button corresponding to an article (e.g., "a sun dress").

The touch screen display **1950** of FIG. **19**E shows the instructions "Select a Profession" and eight professions **1952**. The photo booth may allow a user group to select one of the two professions by touching the touch screen button corresponding to a profession (e.g., "a dance coach").

When the word selection sequence is complete, screen display **1960** of FIG. **19**F may be shown, which may be the start of an imaging sequence, e.g., as described herein with reference to FIGS. **16**A-I. As such, screen display **1960** may be substantially similar to screen display **1600** of FIG. **16**A except screen display **1960** may include a preview image **1902** that has a speech bubble **1904**. The speech bubble **1904** may remain in the preview image shown throughout the imaging sequence so that users of a user group may position their bodies and/or heads around the speech bubble.

Further, the method **720** may include generating a final alphanumeric string based on the one or more alphanumeric strings (block **740**). Generating the final alphanumeric string based on the one or more alphanumeric strings (block **740**) may include providing a fill-in-the-blank phrase (block **742**) (e.g., "_____ ate _____ at the _____ while he was _____") and inserting the selected alphanumeric strings into the fill-in-the blank phrase to provide a final alphanumeric string (block **744**) (e.g., Jacob ate brussel sprouts at the museum while he was laughing out loud.

The computing apparatus may include a plurality of predetermined fill-in-the-blank phrases from which it may choose to use to generate the final alphanumeric string based on the one or more alphanumeric strings chosen by the user. In other embodiments, the display may show a list of fill-in-the-blank phrases from which a user may choose before, after, or while selecting the one or more alphanumeric strings.

In the exemplary embodiment shown on the touch screens of FIG. **19**A-E, the final alphanumeric string that may be generated may be "We met Jack in a mental hospital. He was wearing a sun dress and he claimed that he was a dance coach."

After generating the final alphanumeric string based on the one or more alphanumeric strings (block **740**), the method **720** may continue to image the user space to provide one or more images (block **750**), store the one or more images (block **760**), and print a photo strip including at least one image of the one or more images and the final alphanumeric string (block **770**).

An exemplary photo strip **2000** generated by photo booth systems and/or methods, e.g., the methods generally illustrated in FIGS. **9**-**10** and the screen displays of FIGS. **19**A-F, is depicted in FIG. **20**. Photo strip **2000** may include two sets of three images **2002**. As shown, the images **2002** of a first set are aligned vertically along a first (e.g., left) side of the photo strip **2000**, and the images **2002** of a second set are aligned vertically along a second (e.g., right) side of the photo strip **2000**. Each image may include a speech bubble **2004** located in the same area of the image. The speech bubbles **2004** may include the final alphanumeric string "We met Jack in a mental hospital. He was wearing a sun dress and he claimed that he was a dance coach." In this embodiment, the final alphanumeric phrase is split among the three images. In other embodiments, each image may have the same or a unique final alphanumeric string.

Further, photo strip **2000** defines a gutter **2005** between each set of images. Text and/or graphics may be printed within the gutter **2005**. The gutter **2005** of the photo strip **2000** as shown in FIG. **20** includes a logo **2006** and an event password **2008**. Although not depicted, the gutter **2005** may contain a perforation extending the length of the gutter such that at least one of the two sets of images may be removed from the photo strip. The logo **2006** may be a logo of a company, a brand, alphanumeric strings, images, results, notifications, and/or a fortune. The event password **2008** may be a unique alphanumeric string generated by the computing apparatus of the photo booth that may be used by users to access a website that, e.g., includes the images from a specific event.

Still further, although each set of images **2002** may be based on the same one or more images imaged by an imaging device, each set of imaged may be modified with, e.g., user selected imaging options or preset imaging options. For example, a first set of images on the photo strip **2000** may have been modified with a different tone than a second set of images.

A detailed block diagram of another exemplary method **820** of interacting between a photo booth and one or more users groups is shown in FIG. **11**. Generally, method **820** provides imaging options to a user group so that the user group may customize their images and/or photo strip. The method **820** may optionally begin by allowing a user to opt to select imaging options (block **822**).

One or more exemplary embodiments of the step of allowing a user to opt to select imaging options (block **822**) may be shown on the touch screen display **2100** of FIG. **21**A. The touch screen display **2100** displays two options **2102**: "I want fun photo options" or "Just take my photo strip now," a preview image **2108**, and image status indicators **2110**. A user may touch one of the two options **2102** to proceed to either the imaging options or to an imaging sequence.

If a user opts to select imaging options (block **822**), one or more imaging options may be displayed on the display (block **824**) and a user may select at least one imaging option of the one or more imaging options (block **826**). An exemplary embodiment of the step of displaying one or more imaging options (block **824**) may be shown on the touch screen display **2150** of FIG. **21**B. The touch screen display **2150** shows a preview image **2108**, six imaging options **2152**, and an imaging sequence start button **2154**. The six imaging options **2152** may include tone options, layout options, background options, foreground options, distortion options, and cutout options. Other options may include reprint options, e.g., a user may be able to reprint photo strips and/or images that have already been printed.

For example, interacting between a photo booth and one or more users groups may include displaying reprint options on the display, allowing a user group to select at least one previously-printed photo strip using the reprint options (e.g., using a unique alphanumeric string corresponding to the previously-printed photo strip, etc.), and printing the at least one selected previously-printed photo strip. In at least one embodiment, the method may include allowing the user group to input (using the input apparatus) a unique alphanumeric string corresponding to the previously-printed photo strip (e.g., the unique alphanumeric string may be printed on the previously-printed photo strip) and printing the previously-printed photo strip associated with the unique alphanumeric string. In at least another embodiment, the method may include displaying a plurality of previously-printed photo strips (e.g., "thumbnails" of the previously-printed photo strips arranged in a list, an array, etc.) on the display, and allowing the user group to select at least one of the plurality of previously-printed photo strips to be reprinted using the printing apparatus.

Tone options may include options that modify the color tone of the images to be taken. For example, tone options may include black-and-white, sepia, color, inverted color, saturation levels, cross-processing, different color balances, different density and color levels, etc. Further, the tone options may also include presets of various tone options to provide a desired effect. For example, a tone option may be "Retro Colour" that, when selected, digitally processes the one or

more images such that they appear as traditional film photographs (e.g., reminiscent of cross-processed color photographs from the early 1960s). The tone options selected by the user group may affect one or more images and/or one or more sets of images to be printed by the printing apparatus. Further, the tone options, and/or any of the other imaging options described herein, may include a "random" option that, when selected, may randomly select an imaging option to apply to the one or more images. For example, if a user group selected the random option within the tone options, then the tone of the one or more images may be randomly selected.

In at least one embodiment, the tone options selected by the user group may only affect one set of images on a photo strip (e.g., on a photo strip having two or more sets of images). Further, in at least another embodiment, the tone options for one or more images and/or one or more sets of images may be preset by, e.g., an operator and/or a configuration medium. For example, a user group may select the tone option "sepia" for one set of images and an operator may have preset the tone option "black-and-white" for one set of images. The resultant photo strip (e.g., that is printed by the printing apparatus) will include one set of images that are "sepia" (e.g., the user group selected tone) and one set of images that are "black-and-white" (e.g., the operator preset tone). As such, the photo booth may be configured such that one or more images or sets of images may be modified with a preset tone and/or a selectable tone.

Further, the user group may select the same tone as the operator has preset. For example, a user group may select the tone option "color" and an operator may have preset the tone option "color" for one set of images. As such, the resultant photo strip may include two sets of images that are in "color." Further, for example, the set of images **2002** on the left side of the photo strip **2000** as shown in FIG. **20** may be modified by a preset imaging option (e.g., black-and-white tone) and the set of images **2002** on the right side of the photo strip **2000** may be modified by a user group selectable imaging option (e.g., sepia tone). In this example, a booth operator may tear (e.g., along a perforation in the gutter **2005**) the photo strip **2000** such that the set of images **2002** on the left of the photo strip **2000** may be kept by the booth operator (e.g., for an album) and the set of images **2002** on the right of the photo strip **2000** may be kept by the user group.

Although not further described herein, each imaging option may be preset (e.g., by an operator and/or with a configuration medium) and/or selectable in the same manner described herein with the tone options. Further, the functionality of the one or more imaging options selectable by the user group may be preset by an operator (e.g., an operator may enable the tone options and the cutout options such that the photo booth makes available such options to the user group). In other words, each imaging option may be preset and/or selectable for one or more images or sets of images. Further, the availability of each imaging option may be preset by an operator.

Layout options may include options that may change the layout of the photo strip. For example, layout options may include selecting number of images per strip, size of images on strip, arrangement of photo strip, duplication of images (e.g., two strips of three or one strip of six), etc.

Background options may include false backgrounds to insert behind the images of the user space. For example, a false background may be an image of the mountains, a beach, an underwater scene, a logo, people, a color, animals, a jungle, etc.

Foreground options may include false foregrounds to insert over the images of the user space. For example, a false foreground may be an image of prison bars, a border, people, animals, etc.

Distortion options may include distortion effects that distort the image of the user space. For example, the distortion effects may include blur, noise, sharpen, unsharpen, pixelize, mosaic, lens effects, lighting effects, vignetting, cross-processing, aging effects, skews, pinches/pulls, enlarging/reducing, etc.

Cutout options may include foreground objects to insert over the images of the user space. For example, foreground objects may include a hat, a mustache a mohawk, eyes, a nose, ears, bunny ears, a heart, a speech bubble, an entire body with an open face area, etc.

The method **820** may optionally include displaying a preview image of the user space modified by the selected imaging option(s) (block **828**). For, example, when an imaging option is selected (block **826**), the preview image **2108** may apply the imaging option to allow the user group a preview of what was selected. For example, if a user group selects a distortion option such as blur, the preview image of the user space may become blurred.

If the user group decides that they do not want a particular imaging option they selected, they may unselect it. When the user group is done selecting imaging options, the user group may touch the touch screen button **2154** (i.e., "Just take my photo strip now) to proceed to the imaging sequence. At least in one embodiment, the imaging options screen **2150** may include a timer that counts down the amount of time a user group may have to select one or more imaging options. After the timer runs out, the imaging sequence (e.g., as shown in FIGS. **16**A-I) may automatically begin.

Further, the method **820** may include imaging the user space to provide one or more images (block **830**), storing the one or more images (block **832**), modifying the one or more images with the selected imaging option(s) (block **834**), and printing a photo strip including at least one image (i.e., image(s) modified by the imaging options) of the one or more images (block **836**).

A detailed block diagram of another exemplary method **900** of using a photo booth is illustrated in FIG. **12**. The method **900** may include providing a photo booth (block **910**) and providing one or more exterior display devices (block **915**). The one or more exterior display devices (block **915**) may be substantially similar to the exterior display devices **256** described herein with reference to FIG. **4**. As such, for simplicity, further description on the details of the exterior display devices shall not be provided.

The method **900** further includes interacting between the photo booth and one or more user groups (block **920**). Interacting between the photo booth and one or more user groups (block **920**) may include imaging the user space to provide one or more images (block **922**), storing the one or more images (block **924**), transmitting at least one image of the one or more images to at least one exterior display device (block **926**), and displaying the transmitted image on the at least one exterior display device (**928**).

Transmitting at least one image to an exterior display device (block **926**) may include transmitting the image from the computing apparatus of the photo booth to the exterior display device. The transmission may utilize a wired or wireless connection using standard data (e.g., analog or digital) transmission protocols (e.g., ethernet, wireless ethernet, Bluetooth, etc.). At least in one embodiment, the transmission may merely be a video signal being transmitted over a cable,

e.g., a s-video cable, a composite cable, a coaxial cable, a HDMI cable, a component cable, etc.

Upon receiving the image, the exterior display device may display the transmitted image (block **928**) such that users outside of the photo booth may view the image. For example, the exterior display device may be a projector that projects the image onto a wall or a screen. Further, for example, the exterior display devices may be digital picture frames on every table of a wedding reception that receive images from the photo booth. Still further, for example, the exterior display device may be a website displayed on a computer screen. In this example, users anywhere in the world may login to a website and view the images within a web browser that are currently being taken within the photo booth.

A detailed block diagram of another exemplary method **1020** of interacting between a photo booth and one or more users groups is illustrated in FIG. **13**. Generally, the method **1020** may provide a general standard imaging sequence (e.g., the imaging sequence set up to run during an event) and a startling imaging sequence. The startling imaging sequence may be designed such that the photo booth may startle the user group and simultaneously image the user space to provide images of the user group in a startled state.

The method **1020** may include displaying a preview image of the user space to be imaged (block **1022**), outputting auditory stimulation indicative of the imminence of imaging (block **1024**), and imaging the user space to provide an image (block **1026**). Then, method **1020** may either restart the general standard imaging sequence or randomly depart from the imaging sequence to startle the user group (block **1028**).

If the method **1020** randomly departs from the imaging sequence to startle the user group (block **1028**), startling auditory, somatosensory, visual, and/or olfactory stimulation may be outputted by the photo booth (block **1032**). For example, the visual output apparatus of the photo booth may flash bright colorful lights, the auditory output apparatus may output loud, obnoxious sounds, the somatosensory output apparatus may vibrate the bench of the photo booth, and/or the olfactory output apparatus may excrete a disgusting odor within the user space of the booth. Subsequently, the method **1020** may image the user space to provide an image (block **1030**) of the user group in the startled state. In another example, the startling sequence may include the countdown time moving twice (or more) the normal speed of the countdown.

At least in one embodiment, the startling sequence may be executed at random. In other embodiments, the startling sequence may occur every second picture of the imaging sequence, may be triggered by an operator of the booth, and/or may be triggered by a user.

A detailed block diagram of another exemplary method **1120** of interacting between a photo booth and one or more users groups is illustrated in FIG. **14**. Generally, method **1120** generates an alphanumeric string, provides a basic imaging sequence, and prints a photo strip having the alphanumeric string and the one or more images. The method **1120** may include generating an alphanumeric string (block **1122**) with the computing apparatus of the photo booth. Generating an alphanumeric string may include generating a unique alphanumeric string for each imaging sequence (e.g., a photo strip identifier), generating a unique alphanumeric string for each image of the imaging sequence (e.g., an image identifier), or generating a single alphanumeric string to be used for every imaging sequence of an event (e.g., an event password). The computing apparatus may include software routines and/or hardware to facilitate generation of the alphanumeric strings, or in the alternative, an administrator may input a plurality of alphanumeric strings to be used by the computing apparatus or may part of event specific configuration information provided by an administrator or a configuration medium.

Further, the method **1120** may include imaging the user space to provide one or more images (block **1124**), storing the one or more images (block **1126**), and printing a photo strip including at least one image of the one or more images and the alphanumeric string (block **1128**). Printing the photo strip including the alphanumeric string (block **1128**) may include printing more than one alphanumeric string (e.g., printing a unique image identifier next to each image). At least in one embodiment, the printed alphanumeric string may be a unique raffle number such that each photo strip serves as a raffle ticket for a raffle. Further, at least in another embodiment, the printed alphanumeric string may be a password for accessing a website that may, e.g., include the images from a particular event. Still further, at least in another embodiment, the printed alphanumeric string may be a unique identifier for the photo strip or for each image on the photo strip (i.e., a unique alphanumeric string proximate each image of the photo strip). Yet still further, at least in another embodiment, the printed alphanumeric string may be a fortune (e.g., like a fortune of a fortune cookie).

A general block diagram of another exemplary method **1200** of using a photo booth is illustrated in FIG. **15**. Generally, the method **1200** allows an administrator to apply event specific configuration information to photo booth by using a configuration medium. For example, an administrator may deliver a photo booth to a wedding and the administrator may interface the configuration medium with the photo booth to configure the photo booth with an event specific configuration (e.g., wedding party name, imaging options, event specific quiz games questions and answers, event specific alphanumeric strings for speech bubbles, start/end times, number of "winners" for a lottery-type game, and/or any other event specific information).

The method **1200** may include providing a configuration medium with event specific information (block **1205**) and providing a photo booth (block **1210**). The configuration medium may be substantially similar to the configuration medium **236** of FIG. **3** and the photo booth may be substantially similar to the photo booth may be similar to the photo booth **202** of FIG. **2**. As such, for simplicity, further description on the details of the configuration medium and photo booth shall not be provided.

The method **1200** may further include configuring the photo booth with the event specific configuration information (block **1215**). Configuring the photo booth with the event specific configuration information (block **1215**) may include interfacing the configuration medium with the photo booth, e.g., the computing apparatus of the photo booth, or the input apparatus of the photo booth, such that the event specific configuration information may be transmitted to the computing apparatus of the photo booth. Once the event specific configuration information is transmitted to the computing apparatus, the computing apparatus may configure the operation of the photo booth in accordance with event specific configuration information.

At least in one embodiment, an operator may merely insert a USB memory key (e.g., a configuration medium) into a USB port of the computing apparatus and the computing apparatus may automatically recognize the configuration medium, mount the file system of the configuration medium, download the event specific configuration information, and configure the photo booth according to the event specific configuration information.

Exemplary event specific configuration information may include photo strip layout, gutter layout, tone, one or more alphanumeric strings to be displayed on the display or printed on the photo strip, duration of operation for the photo booth, an audio message to be displayed on the display, a video message to be displayed on the display, information to be displayed, questions and/or answers for quiz game, etc.

For example, a video message (e.g., a greeting such as a bride and groom welcome message) may be shown on the display to each user group during the imaging sequence. Further, for example, the duration of operation may control how long the booth is operating at a particular event. If the duration of operation is set at three hours starting at 3:00 PM, the photo booth may cease operation at 6:00 PM. Still further, for example, the imaging options may configure the photo booth to modify the images to be black-and-white images with vignetting.

The method **1200** further includes interacting between the photo booth and the one or more use groups in accordance with the event specific configuration information (block **1215**). This step (block **1215**) may simply execute any of the methods described herein in accordance with the event specific configuration information. For example, the event specific configuration information may dictate that a quiz game method be executed within the photo booth (e.g., the configuration information may include event specific questions and answers) and that three black-and-white images are to be taken.

Further, the methods and/or systems described herein may allow users to reprint photo strips using the input apparatus of the photo booth. At least in one embodiment, the display of the photo booth may provide a screen display by which a user may find his/her images and/or photo strip and may reprint the images and/or photo strip using the printing apparatus (e.g., the screen display may include an array of resized images of the previously-printed photo strips, or "thumbnails," from which a user may select). At least in another embodiment, the photo booth may include an exterior display device and input apparatus by which a user may find his/her images and/or photo strip and may reprint the photo strip using the printing apparatus. Further, in other embodiments, the user may also enter his/her email address such that the photo strip and/or images may be emailed to his/her email address.

Although method **1200** describes the use of a configuration medium to configure the photo booth with an event specific configuration, the event specific configuration may be configured by an operator, e.g., inputting the event specific configuration using the input apparatus into the computing apparatus of the photo booth. In at least one embodiment of a method of using a photo booth, the method may include configuring the photo booth with event specific configuration information that, e.g., includes a preset tone and the functionality to allow a user group to select a tone (e.g., tone options).

The complete disclosure of the patents, patent documents, and publications cited in the Background, the Summary, the Detailed Description of Exemplary Embodiments, and elsewhere herein are incorporated by reference in their entirety as if each were individually incorporated. Exemplary embodiments of the present invention are described above. Those skilled in the art will recognize that many embodiments are possible within the scope of the invention. Other variations, modifications, and combinations of the various components and methods described herein can certainly be made and still fall within the scope of the invention. Thus, the invention is limited only by the following claims and equivalents thereto.

What is claimed is:

**1**. A method of using a photo booth, the method comprising:

providing a photo booth, wherein the photo booth defines a user space, wherein the photo booth comprises:

computing apparatus;

printing apparatus operably coupled to the computing apparatus, wherein the printing apparatus is configured to print a plurality of photo strips, wherein each photo strip of the plurality of photo strips comprises at least two sets of images, wherein each set of images of the at least two sets of images comprises one or more images;

imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space;

input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus; and

output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus comprises a display; and

interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups comprises one or more users, wherein interacting between the photo booth and each user group of the one or more user groups comprises:

displaying on the display one or more imaging options, wherein the one or more imaging options are operable to modify images imaged with the imaging apparatus using the computing apparatus, wherein the one or more imaging options comprise tone options;

allowing the user group to select one or more imaging options from the one or more imaging options using the input apparatus, wherein allowing the user group to select one or more imaging options comprises allowing the user group to select a tone using the tone options;

imaging the user space with the imaging apparatus to provide one or more images;

storing the one or more images using the computing apparatus;

modifying at least one image of the one or more images with the selected one or more imaging options using the computing apparatus, wherein modifying at least one image of the one or more images comprises modifying at least one image of the one or more images with the selected tone using the computing apparatus; and

printing using the printing apparatus a photo strip comprising a first set of images and a second set of images, wherein each of the first set of images and the second set of images are based on the same one or more images imaged by the imaging apparatus, wherein the second set of images comprises the one or more images modified by the computing apparatus with the selected tone, and further wherein the first set of images comprises the one or more images unmodified by the computing apparatus with the selected tone.

**2**. The method of claim **1**, wherein the tone options comprise at least one of black-and-white, sepia, and color.

**3**. The method of claim **1**, wherein interacting between the photo booth and each user group of the one or more user groups further comprises displaying on the display a preview

image of the user space to be imaged by the imaging apparatus, wherein the preview image is modified with the selected tone.

**4**. The method of claim **1**, wherein the one or more imaging options further comprise background options, wherein allowing the user group to select one or more imaging options comprises allowing the user group to select a background using the background options, and further wherein modifying at least one image of the one or more images comprises overlaying at least a portion of the at least one image over the selected background.

**5**. The method of claim **1**, wherein the one or more imaging options further comprise foreground options, wherein allowing the user group to select one or more imaging options comprises allowing the user group to select a foreground using the foreground options, and further wherein modifying at least one image of the one or more images comprises overlaying the selected foreground over the at least one image.

**6**. The method of claim **1**, wherein the one or more imaging options further comprise distortion options, wherein allowing the user group to select one or more imaging options comprises allowing the user group to select a distortion using the distortion options, and further wherein modifying at least one image of the one or more images comprises distorting the at least one image with the selected distortion.

**7**. A method of using a photo booth for one or more events, the method comprising:

providing a photo booth, wherein the photo booth defines a user space, wherein the photo booth comprises:

computing apparatus;

printing apparatus operably coupled to the computing apparatus, wherein the printing apparatus is configured to print a plurality of photo strips, wherein each photo strip of the plurality of photo strips comprises at least two sets of images, wherein each set of images of the at least two sets of images comprises one or more images;

imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space;

input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus; and

output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus comprises a display;

configuring the photo booth with event specific configuration information, wherein the event specific configuration information comprises a preset tone; and

interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups comprises one or more users, wherein interacting between the photo booth and each user group of the one or more user groups comprises:

displaying on the display one or more imaging options, wherein the one or more imaging options are operable to modify images imaged with the imaging apparatus using the computing apparatus, wherein the one or more imaging options comprise tone options;

allowing the user group to select one or more imaging options from the one or more imaging options using the input apparatus, wherein allowing the user group to select one or more imaging options comprises allowing the user group to select a tone using the tone options;

imaging the user space with the imaging apparatus to provide one or more images;

storing the one or more images using the computing apparatus;

modifying at least one image of the one or more images with the selected one or more imaging options using the computing apparatus, wherein modifying at least one image of the one or more images comprises modifying at least one image of the one or more images with the selected tone using the computing apparatus;

modifying at least one image of the one or more images with the preset tone using the computing apparatus; and

printing using the printing apparatus a photo strip comprising a first set of images and a second set of images, wherein each of the first set of images and the second set of images are based on the same one or more images imaged by the imaging apparatus, wherein the first set of images comprises the one or more images modified by the computing apparatus with the preset tone, and further wherein the second set of images comprises the one or more images modified by the computing apparatus with the selected tone.

**8**. The method of claim **7**, wherein the tone options comprise at least one of black-and-white, sepia, and color.

**9**. The method of claim **7**, wherein interacting between the photo booth and each user group of the one or more user groups further comprises displaying on the display a preview image of the user space to be imaged by the imaging apparatus, wherein the preview image is modified with the preset tone.

**10**. A method of using a photo booth, the method comprising:

providing a photo booth, wherein the photo booth defines a user space, wherein the photo booth comprises:

computing apparatus defining a preset tone;

printing apparatus operably coupled to the computing apparatus, wherein the printing apparatus is configured to print a plurality of photo strips, wherein each photo strip of the plurality of photo strips comprises at least two sets of images, wherein each set of images of the at least two sets of images comprises one or more images;

imaging apparatus operably coupled to the computing apparatus, wherein the imaging apparatus is configured to image the user space;

input apparatus operably coupled to the computing apparatus, wherein the input apparatus is configured to allow a user to input information into the computing apparatus; and

output apparatus operably coupled to the computing apparatus, wherein the output apparatus is configured to present information to a user from the computing apparatus, wherein the output apparatus comprises a display; and

interacting between the photo booth and one or more user groups, wherein each user group of the one or more user groups comprises one or more users, wherein interacting between the photo booth and each user group of the one or more user groups comprises:

displaying on the display one or more imaging options, wherein the one or more imaging options are operable to modify images imaged with the imaging apparatus

using the computing apparatus, wherein the one or more imaging options comprise tone options;

allowing the user group to select one or more imaging options from the one or more imaging options using the input apparatus, wherein allowing the user group to select one or more imaging options comprises allowing the user group to select a tone using the tone options;

imaging the user space with the imaging apparatus to provide one or more images;

storing the one or more images using the computing apparatus;

modifying at least one image of the one or more images with the selected one or more imaging options using the computing apparatus, wherein modifying at least one image of the one or more images comprises modifying at least one image of the one or more images with the selected tone using the computing apparatus; and

printing using the printing apparatus a photo strip comprising a first set of images and a second set of images, wherein each of the first set of images and the second set of images are based on the same one or more images imaged by the imaging apparatus, wherein the first set of images comprises the one or more images modified by the computing apparatus with the preset tone, and further wherein the second set of images comprises the one or more images modified by the computing apparatus with the selected tone.

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